

# *Managing Water in the West*

DEC 05 - 087

## **Humboldt Project Conveyance**

### **Draft Environmental Impact Statement**



U. S. Department of the Interior  
Bureau of Reclamation  
Lahontan Basin Area Office  
705 N. Plaza, Suite 320  
Carson City, NV 89701

January 2005



17  
COMMENTS DUE 3/28/05

## **Humboldt Project Conveyance**

**Environmental Impact Statement** Draft ( ☒ ) Final ( ☐ )

**Lead Agency:** United States Department of Interior  
Bureau of Reclamation, Lahontan Basin Area Office  
Carson City, Nevada

**Cooperating Agency:** Pershing County Water Conservation District  
Lovelock, Nevada

### **1. Abstract:**

The United States Department of the Interior, Bureau of Reclamation has prepared this Environmental Impact Statement to evaluate the potential impacts of the proposed Humboldt Project Conveyance. The proposed title conveyance is authorized under Title VIII of Public Law 107-282, Humboldt Project Conveyance Act. The Act directs the Secretary of the Interior to convey the right, title, and interest in and to the lands and features of the Humboldt Project, including all water rights for storage and diversion, to the Pershing County Water Conservation District, the State of Nevada, Pershing County and Lander County.

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### **3. Comments must be received by: April 1, 2005**





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## HUMBOLDT PROJECT CHRONOLOGY

<b>HUMBOLDT PROJECT CHRONOLOGY</b>	
<b>DATE</b>	<b>DESCRIPTION</b>
December 12, 1934	Agreement and Assignment between PCWCD, Bureau of Reclamation and Aldous family assigning to the Bureau of Reclamation the PCWCD's rights under the July 15, 1934 purchase contract between PCWCD and the Aldous family
January 14, 1935	Extension Agreement among PCWCD, Bureau of Reclamation, and Aldous family extending time for performance of purchase agreement terms and conditions
January 17, 1935	Warranty Deed executed by Aldous family conveying the Aldous Ranch to United States of America for \$33,500 · 15,000 acres · 4154.06 a.f.
January 26, 1935	Warranty Deed executed by Filippini Ranching Company conveying Argenta and Muleshoe Ranches to United States of America for \$181,000. · 16,000 acres less 640 ac to T.S. Cattle Co. and Hibernia S&L Soc. and less 300 ac to W.E. Licking · Together with all water, water rights, ditches and ditch rights appurtenant
February 5, 1935	Warranty Deed from Ellison Ranching Co. to United States of America · 18,000 acres · 15,379.22 a.f.
February 7, 1935	Deed from Russell Land and Cattle Co. to United States of America · Conveyance of water only · 562.18 a.f. · 3.645 c.f.s.
March 2, 1935	Deed from Louis G. and Katherine V. Hammond to United States of America · 1,350 acres · 2,988.29 a.f.
March 4, 1935	Warranty Deed from Zebulon and Celina Silve to United States of America · 800 acres · 1,282.87 a.f.
March 4, 1935	Instrument unknown from John G. Taylor Inc. to United States of America (#9731) · 7,000 ac. · 6084.06 a.f.
March 4, 1935	Instrument Unknown from Bains to United States of America · 1,800 acres · 2,626.27
March 4, 1935	Deed and Assignment from John G. Taylor to United States of America (#10065) · 1154.84 acres · 1657.57 a.f. · 9,385 c.f.s.
October 8, 1935	Hon. H. W. Edwards issues a supplemental decree on the Humboldt River Basin, which taken with the Bartlett Decree constitutes the Humboldt River Decree
November 1, 1935	Secretary of Interior, Harold L. Ickes finds the Humboldt Project feasible
November 6, 1935	President Franklin D. Roosevelt signed Humboldt Project approval
June 1, 1936	Rye Patch Dam construction completed with a design capacity of 170,000 a.f.
September 8, 1936	PCWCD executes deeds to USA assigning all of its interest in the Humboldt Project water rights permits then on file under its name (Nos. 9716, 9729-9735, and 9821)
January 4, 1937	State Engineer's Office approves USA's transfer of Russell Land & Cattle Company Battle Mountain area water rights to PCWCD lands (Application No. 10065)
June 1, 1937	State Engineer's Office approves USA's transfer of John G. Taylor, Inc. water rights



HUMBOLDT PROJECT CHRONOLOGY	
DATE	DESCRIPTION
	from Valmy area to PCWCD lands (Application No. 10065)
November 26, 1938	The Humboldt River Adjudication finalized by order of the Nevada Supreme Court, when it affirmed the Humboldt River Decree halting all future challenges
January 21, 1939	Battle Mountain Water Collection and Development System construction completed
January 17, 1940	Termination of 5-year use by W. E. Licking of Big Field and Lone Tree Field on Aldous Ranch
June 21, 1940	USA acquires Pitt Ranch (1,630 acres) and 28,475 shares Class A stock of Humboldt Lovelock Irrigation Light & Power Co. and 2,000 shares of stock of Old Channel Ditch Co. by warranty deed for \$75,000. This purchase unifies the Lovelock Valley irrigators and allows Rye Patch to fill for the first time due to prior concern that full fill would have inundated the HIL&P Co. facilities
December 31, 1940	Secretary of Interior gives notice to PCWCD requesting it to assume care, operation, and maintenance of all project works and property, effective January 16, 1941
Spring 1941	First deliveries of stored water from Rye Patch Reservoir begin
August 8, 1941	Contract Ilr-774 between USA and PCWCD supplemental to October 1, 1934 contract nullifying excess land provision; assigning operation and maintenance of Pitt Ranch to PCWCD as of January 1, 1942, and providing allocation of profits from ranch; and reamortizing repayment obligation over a 35-year period to end on October 1, 1977
January 26, 1946	Termination of consecutive leases of Argenta and Muleshoe ranches to Filippini Ranching Co. (1935-1942), F. S. Cattle Co. (1942-1944), and Hibernia Savings & Loan Society (1944-1946)
1951	PCWCD begins leasing Filippini Ranch from the USBR for Community Pasture grazing
1953	PCWCD enters into 30-year lease with USBR for both Filippini and Aldous ranches for Community Pasture grazing
October 6, 1955	Contract No. 14-06-200-429 between USA and PCWCD for rehabilitation and betterment of the Battle Mountain Collection System loaning district a maximum of \$123,000 to be repaid at 5 percent over 20 years to replace Upper Slaven Dam, and to make dike, channel, and irrigation ditch improvements
1955-1957	Rehabilitation and betterment work undertaken and completed
September 14, 1962	Contract Ilr-774 Supplemental No. 2 between USA and PCWCD supplementing October 1, 1934 and August 8, 1941 contracts by deferring balance of 1962 payment (\$33,902.68) and amortizing over remaining repayment period of 15 years
April 22, 1966	Letter from W.T. Grissom, Bureau of Reclamation Regional Procurement and Property Officer to Fred H. Johnston, Bureau of Reclamation Chief of Real Property Division Utilization and Disposal Service indicating that Bureau of Reclamation has no objection for transfer of 160-acre tract in Battle Mountain area to Lander County for sewage disposal bed, provided that current market value is determined and credited against PCWCD repayment obligation on Community Pasture acquired lands
1970 - 1979	PCWCD acquires title to each of the six main canal companies within the Lovelock Valley, unifying operations under PCWCD administration.
June 15, 1971	Interim Management Agreement for Rye Patch Reservoir Recreation Area among USA, PCWCD, and Nevada State Park System (terminated by 5/5/77 agreement)
August 22, 1975	Contract No. 14-06-200-8194A between USA and PCWCD for rehabilitation and betterment of Rye Patch Dam in increasing height of dam by 3 feet and loaning

## HUMBOLDT PROJECT CHRONOLOGY

DATE	DESCRIPTION
	District a maximum of \$600,000 (\$287,000 actually spent) to be repaid over a 20-year period following completion of work and calling for application of revenues from government-leased lands to be credited to this debt after prior debts have been satisfied
May 5, 1977	Management Agreement (Contract No. 14 06 200 8273A) between USA, PCWCD and State of Nevada Parks Division for development, administration, operation, and maintenance of recreation at Rye Patch Reservoir for a renewable 25-year period
1978	PCWCD completes repayment of actual original project costs accrued as of December 31, 1936 of \$1,042,869.63, which included \$425,791 spent to acquire land and water rights
January 1, 1979	Lease Agreement between PCWCD and Nevada Department of Conservation and Natural Resources for lease of 40-acre parcel for park caretaker residence
September 17, 1982	Letter from Department of Interior Assistant Secretary, Gary Carruthers to Congressman Morris K. Udall, Chairman Committee on Interior and Insular Affairs, opposing HR 5652, a bill "To authorize and direct the Secretary of Interior to convey real property to the Pershing County Water Conservation District" due to unfinished development of transfer guidelines by DOI
1983	Title transfer effort (H.R. 2551)
April 20, 1989	Lease for Community Pasture, Contract No. 9-07-20-L5086 between PCWCD and USA for 5-year period from January 1, 1989 to December 31, 1994 for \$6,300
February 20, 1991	Title transfer effort (H.R. 1038)
September 30, 1991	Nevada State Parks sends final draft of Rye Patch State Recreation Area Development Plan to PCWCD for review
November 22, 1994	Letter from PCWCD to Reclamation requesting 1-year extension of Community Pasture lease
January 20, 1995	Lease for Community Pasture between PCWCD and USA, Contract No. 5-07-20-L6392 for 1995 calendar year for \$6,300 less District operating expenses
1995	PCWCD hires rangeland consultant to develop ongoing grazing management plan for Community Pasture
August 7, 1995	Reclamation adopts the Framework for the Transfer of Title – Bureau of Reclamation Projects
January 31, 1996	Lease for Community Pasture between PCWCD and USA, Contract No. 5-07-20-L6549 for 1996 calendar year for \$6,300 less District operating expenses
February 29, 1996	Contract No. 6-07-20X0339 between USA and PCWCD for modification to Rye Patch Dam pursuant to the Safety of Dams Act. Total modification costs were approximately \$7.7 million. The contract required that PCWCD repay 15% of the total modification costs over an 8-year period (approximately \$1.1 million). In addition, PCWCD was required to develop a water conservation program
1996	Safety of Dams work completed. Rye Patch Reservoir filled to its present capacity of 213,000 a.f.
August 5, 1997	Lease for Community Pasture between PCWCD and USA, Contract No. 7-07-20-L6751 for 1997 calendar year for \$6,300 less District operating expenses
September 15, 1997	PCWCD request by letter that Reclamation enter into negotiations to transfer title to the Humboldt Project
February 12, 1998	Lease for Community Pasture between PCWCD and USA, Contract No. 8-07-20-L6872 for 1998 calendar year for \$6,300 less District operating expenses
February 26-27, 1998	Public title transfer scoping meeting in Battle Mountain, Lovelock, and Carson City

<b>HUMBOLDT PROJECT CHRONOLOGY</b>	
<b>DATE</b>	<b>DESCRIPTION</b>
March 17, 1998	Public title transfer scoping meeting in Reno
January 24, 2000	Lander County Board of Commissioners and the PCWCD Board of Directors draft a Conceptual Memorandum of Agreement to define the proposed transfer of lands from Reclamation to Lander County and PCWCD
October 18, 2001	State of Nevada signs a Letter of Conceptual Agreement between the State and PCWCD for the proposed title transfer
February 11, 2002	Lander County Board of Commissioners signs Conceptual Memorandum of Agreement to define the proposed transfer of lands from Reclamation to Lander County and PCWCD
April 16, 2002	Pershing County Board of Commissioners provide specific language requesting transfer of portions of the Humboldt Sink near Derby Airfield to Pershing County
November 6, 2002	Title VIII of Public Law 107-282, Humboldt Project Conveyance Act passed by Congress and signed into law
February 26, 2003	Reclamation publishes a Notice of Intent to prepare an EIS for the Humboldt Project Conveyance in the Federal Register [68 FR 8924]
January 14, 2004	Reclamation publishes a Notice of Public Scoping for the Humboldt Project Conveyance EIS in the Federal Register [69 FR 2157]
February 18, 2004	Public Scoping meeting held in Battle Mountain, Nevada
February 19, 2004	Interagency meeting held in Reno, Nevada
February 19, 2004	Public Scoping meeting held in Reno, Nevada

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## EXECUTIVE SUMMARY



# EXECUTIVE SUMMARY

The United States Department of the Interior, Bureau of Reclamation (Reclamation) has prepared this Environmental Impact Statement (EIS) to evaluate the potential impacts of the proposed Humboldt Project Conveyance, commonly known as the "Humboldt Project Title Transfer." The Secretary of the Interior (Secretary) is directed under Title VIII of Public Law 107-282, Humboldt Project Conveyance Act to convey all right, title, and interest in and to the lands and features of the Humboldt Project (Project), including all water rights for storage and diversion, to the Pershing County Water Conservation District (PCWCD *or* District), the State of Nevada (State), Pershing County and Lander County.

The proposed title transfer is also subject to the terms and conditions set forth in the Memorandum of Agreement between PCWCD and Reclamation dated May 6, 2004; H. R. 2754, Energy and Water Development Appropriations Bill dated December 1, 2003; the Memorandum of Agreement between PCWCD and Lander County dated January 24, 2000; the Conceptual Agreement between PCWCD and the State of Nevada dated October 18, 2001; and the Letter of Agreement between Pershing County and the State of Nevada dated April 16, 2002.

The Project, which is located in north central Nevada, is a Reclamation storage project. Authorized in 1933, the Project includes federal lands that were withdrawn from the public domain and dedicated to the Project (withdrawn lands), and lands that were purchased by the federal government for dedication to the Project (acquired lands). The Project includes three primary features – Humboldt Sink, Rye Patch Reservoir, and the Battle Mountain Community Pasture (Community Pasture). The Humboldt Sink is comprised of approximately 32,650 acres of withdrawn lands in Pershing and Churchill counties and is located approximately 10 miles south of the City of Lovelock. The Rye Patch Reservoir, also in Pershing County, includes approximately 8,460 acres of withdrawn lands and approximately 12,340 acres of acquired lands along the Humboldt River approximately 26 miles upstream of Lovelock. The Community Pasture, located in Lander County, encompasses approximately 30,000 acres of acquired pasture lands located in or near the unincorporated town of Battle Mountain.

## PURPOSE AND NEED

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The purpose of this action is to transfer the Project from federal ownership to the PCWCD, the State of Nevada, Lander County and Pershing County. The action is needed to comply with Title VIII of Public Law 107-282, which directs the Secretary to transfer title of the Humboldt Project to the above named entities.

## DESCRIPTION OF THE ALTERNATIVES

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Two alternatives are evaluated in this EIS: (1) the No Action Alternative, under which all interests the United States holds in the Humboldt Project would remain in federal ownership; and (2) the Proposed Action under which Reclamation would transfer title to all interests the United States holds in the Humboldt Project to the PCWCD, the State of Nevada, Lander County and Pershing County.

## PROPOSED ACTION

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The Proposed Action would transfer approximately 83,530 acres of federal lands associated with the Humboldt Project to PCWCD, the State of Nevada, Pershing County and Lander County. Reclamation withdrawn lands within the Humboldt Sink would transfer to the State of Nevada and Pershing County. In accordance with the Humboldt Project Conveyance Act and related agreements, the State of Nevada

would receive title to approximately 31,660 acres of withdrawn land in the Humboldt Sink. The Nevada Department of Wildlife (NDOW) would continue to operate and maintain these lands as part of the Humboldt Wildlife Management Area (WMA). Pershing County would receive approximately 990 acres of land for future expansion of the Derby Airfield.

The Proposed Action would transfer all acquired lands in the Rye Patch Reservoir area to PCWCD. All withdrawn lands below the reservoir high water mark would transfer to the PCWCD. All withdrawn lands above the reservoir high water mark would transfer to the State. State Parks would continue to operate and maintain the recreation facilities at the Rye Patch State Recreation Area.

Under the Proposed Action, PCWCD would maintain a minimum operational pool of 3,000 acre-feet in Rye Patch Reservoir to sustain the fishery. Operations policy as a result of the Proposed Action will require PCWCD to reduce or cease all releases when the reservoir reaches a minimum of 3,000 acre-feet of storage.

PCWCD would be responsible for updates to the Standing Operating Procedure Emergency Action Plan as required by the State of Nevada, Safety of Dams Program.

The Proposed Action would transfer acquired lands within the Battle Mountain Community Pasture from Reclamation to PCWCD, the State of Nevada, and Lander County. PCWCD would receive title to approximately 22,500 acres within the Community Pasture and plans to continue its management and operation as a livestock pasture.

The State of Nevada would receive title to approximately 5,850 acres of land in the Community Pasture for purposes of creating a wetland. PCWCD would continue to maintain and operate the land transferred to the State as a pasture until such time as development of a wetland begins. Wetland development would depend on the acquisition of water rights by NDOW or other entity wishing to pursue such actions.

The State of Nevada would assume responsibility for operation and maintenance of Slaven Diversion Dam near the east end of the Community Pasture in conjunction with other beneficial uses of the facility when it is needed to divert water to develop the proposed wetland. After title to the facility is transferred to the State and before it is needed for diversion of water to the developed wetland, PCWCD would continue to operate and maintain the dam and appurtenant structures.

In addition, Lander County would receive title to approximately 1,100 acres of Community Pasture lands. Proposed uses for these lands include expansion of the county's industrial area, county fairgrounds and maintenance facilities, and a new primitive park and access easements along the Humboldt River. The access easement would be subject to certain restrictions including maintaining the easement area in its natural state, day use only, and activities limited to foot traffic only.

## **NO ACTION ALTERNATIVE**

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Under the No Action Alternative, the title transfer would not occur and the lands and associated water rights and improvements associated with the Humboldt Project would continue to be held by the United States under the existing contracts with PCWCD. The lands would continue to be operated by PCWCD, NDOW, and State Parks according to the purposes for which the Project was authorized, subject to existing agreements and contracts.

If the title transfer were not to occur, Reclamation may choose to prepare a Resource Management Plan (RMP) to guide future decisions for Project lands. Preparation and implementation of an RMP is subject to Congressional funding (USBR 2003a).



Under the No Action Alternative, federal lands within the Humboldt Sink would continue to be managed by NDOW for the operation and maintenance of the Humboldt WMA via a tri-party contract between United States and PCWCD. Proposed transfer of lands to Pershing County within the Humboldt Sink would not occur. However, Pershing County could pursue land acquisition or airport expansion through a separate action or enter into a tri-party lease to use the lands with Reclamation and PCWCD.

Under the No Action Alternative, Humboldt Project lands at Rye Patch Dam and Reservoir would not transfer to PCWCD and the State of Nevada. The lands would continue to be operated by PCWCD, according to the purposes for which the Project was authorized, NDOW and State Parks could continue to operate lands subject to the party agreements between Reclamation, PCWCD and the State.

Reclamation would be required to perform safety inspections of Rye Patch Dam and prepare Comprehensive Facility Reviews on a bi-annual basis. In addition, Reclamation would be required to update the Standing Operating Procedure Emergency Action Plan in compliance with the Safety of Dams Program.

Under the No Action Alternative, Project lands within the Community Pasture would continue to be operated by PCWCD for grazing purposes. The proposed transfer of lands within the Community Pasture to PCWCD, the State of Nevada, and Lander County would not occur. The State of Nevada would not receive Project lands for wetlands development. Lander County would not receive title to the four parcels totaling approximately 1,100 acres. However, Lander County could pursue land acquisition through a separate action or enter into a tri-party lease to use the lands with Reclamation and PCWCD.

**Table EX-1** summarizes and compares the environmental impacts that would result from implementation of the Proposed Action and No Action alternatives. More detailed analysis on the impacts associated with each resource or issue listed in the table is presented in Chapter 3, Affected Environment – Environmental Consequences.

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**TABLE EX-1**  
**SUMMARY OF IMPACTS**

<b>Resource</b>	<b>No Action Alternative</b>	<b>Proposed Action / Preferred Alternative</b>
Land Resources and Use	<p>The United States would continue to hold title pursuant to its contract(s) with PCWCD. PCWCD would continue to manage the lands according to the purposes for which the Project was authorized, subject to existing agreements and contracts with the State and Reclamation.</p> <p>Reclamation may choose to prepare a Resource Management Plan (RMP) pursuant to its contract(s) with PCWCD to guide future land resource decisions for Project lands. Preparation and implementation of an RMP is subject to Congressional funding (USBR 2003a).</p>	<p>Reclamation lands would be transferred to PCWCD, State of Nevada, and Pershing and Lander Counties. Subsequent to the title transfer, receiving entities could sell or commercially develop the lands they receive under the Proposed Action. However, with the exception of parcels going to Pershing and Lander Counties, such action is unlikely.</p> <p>Land transferred to PCWCD and the State of Nevada are not anticipated to be commercially developed, as this would depart significantly from these entities' basic missions. PCWCD's primary purpose is to provide irrigation water to its constituents. NDOW's primary purpose is the management of wildlife habitat within the State of Nevada, and State Parks' purpose is the management of recreational resources in the State.</p>
Surface Water	<p>No change to existing condition. Lands and associated water rights and improvements would continue to be held by the PCWCD patrons, PCWCD and the United States.</p> <p>Under the No Action Alternative, PCWCD would not be required to maintain the minimum operational pool criteria.</p>	<p>With the exception of the proposed minimum operational pool criteria, impacts to surface water storage and use would not change. PCWCD has agreed to maintain a minimum operational pool of 3,000 acre-feet in Rye Patch Reservoir to sustain the fishery. PCWCD would reduce or cease all releases from Rye Patch when the reservoir reaches a minimum of 3,000 acre-feet of storage. Impacts to surface water use on other Project lands would not change.</p> <p>Under the Proposed Action, the State of Nevada would receive title to approximately 5,850 acres of land in the Community Pasture for wetland development. These lands do not have water rights. Water rights acquisition for wetland development would be the responsibility of the receiving entity.</p>
Groundwater	No change to existing condition	<p>Under the Proposed Action, impacts to groundwater in the Humboldt Sink and Rye Patch Reservoir would be the same as those under the No Action Alternative. Lands within the Battle Mountain Community Pasture, proposed to be transferred to Lander County for industrial development, may require the use of groundwater. The Battle Mountain Water and Sewer Department would be responsible to supply any additional Municipal and Industrial (M&amp;I) water to lands acquired for such purposes. At this time, the Battle Mountain Water and Sewer Department does not anticipate restrictions on acquiring water supplies for additional M&amp;I use.</p>

TABLE EX-1

## SUMMARY OF IMPACTS

Resource	No Action Alternative	Proposed Action / Preferred Alternative
Water Use	No change to existing condition	Same as No Action
Water Quality	No change to existing condition	Same as No Action
Water Rights	No change to existing conditions. Water rights would continue to be held by the United States.	Under the Proposed Action, the nine direct flow water rights and two storage rights held in the name of the United States would be conveyed to PCWCD.
Geologic Resources	No change to existing condition	The title transfer would not affect geological resources on transfer lands. The legislation provides that all right, title, and interest in the lands is being conveyed at the time of transfer; there is no reservation of mineral rights to the United States. The transfer may impact access to mineral and geothermal leases. However, the Bureau of Land Management (BLM) has not yet resolved how they intend to handle these leases.
Soil Resources	No change to existing condition	Increased public access along the Humboldt River in the Battle Mountain area may result in bank erosion or sedimentation in the river. However, given the limited population in the area, the effect is expected to be minor and similar to existing conditions.
Biological Resources	No change to existing condition. If title were retained by the United States, Reclamation would continue to comply with applicable laws regulations addressing plant, fish, and wildlife resources. All Executive Orders, regulatory requirements for wetlands under Section 404 of the Clean Water Act, and applicable state laws and regulations regarding plant, fish, and wildlife management would continue to apply to the project.	Transferring lands out of federal ownership would mean that the Endangered Species Act (ESA) compliance provisions applicable only to federal agencies would no longer apply. However other protective sections of the ESA such as Section 9 and Section 10 would apply. All regulatory requirements for wetlands under Section 404 of the Clean Water Act and all state laws and regulations regarding fish and wildlife management would continue to apply to the project, regardless of ownership.
Hazardous Materials and Safety	No change to existing conditions	Title to the Rye Patch Dam would transfer to the PCWCD. Reclamation would no longer have the responsibility for activities related to its Safety of Dams Program. The dam safety regulatory responsibility would formally transfer to the State of Nevada, and the dam safety ownership responsibilities would transfer to the PCWCD. Liability for the structure and its operation would become the sole responsibility of the PCWCD.

**TABLE EX-1  
SUMMARY OF IMPACTS**

Resource	No Action Alternative	Proposed Action / Preferred Alternative
Recreation	<p>No change to existing conditions. State Parks would continue to manage the Rye Patch State Recreation Area under a tri-party agreement with Reclamation and PCWCD.</p> <p>Proposed recreational enhancements by Lander County for the development of a primitive day-use and parking area adjacent to the Humboldt River, a dedicated easement along the river, and expansion of the Livestock Events Center would not occur.</p>	<p>Reclamation lands currently operated as part of the Humboldt WMA would transfer from federal ownership to the State of Nevada, with a small portion transferred to Pershing County for airport expansion.</p> <p>State Parks would continue to manage current and future recreational use and development at the reservoir.</p> <p>Lander County would receive title to approximately 1,100 acres of Community Pasture lands for the development of a primitive day-use and parking area adjacent to the Humboldt River, a dedicated easement along the river, and expansion of the Livestock Events Center.</p>
Socioeconomic	<p>No change to existing conditions. The counties would continue to receive payment in-lieu of tax (PILOT) payments based on annual calculations.</p>	<p>Upon conveyance of the lands and facilities, receiving entities shall no longer be eligible to receive any future Reclamation benefits with respect to the Humboldt Project, except those benefits that would be available to other non-Reclamation districts.</p> <p>Project lands would be removed from Lander, Pershing and Churchill Counties' PILOT payment calculation. For those lands being transferred to PCWCD and the State of Nevada, the land would be exempt from the collection of property tax.</p> <p>Commercial development of lands transferred to Pershing and Lander Counties may be subject to future property taxes and additional sales tax revenues. Local assessment of property for tax purposes is usually higher than the PILOT formulation.</p>
Environmental Justice	<p>No change to existing conditions</p>	<p>Lander County may develop an industrial park adjacent to the existing sewage treatment facility. The parcel is located north of lands owned by the Battle Mountain Band of the Te-Moak Tribe. Any development would be subject to county regulations.</p>

**TABLE EX-1  
SUMMARY OF IMPACTS**

<b>Resource</b>	<b>No Action Alternative</b>	<b>Proposed Action / Preferred Alternative</b>
Cultural Resources	No change to existing conditions. Cultural Resources on federal lands would remain under federal control and subject to the federal protections provided by the National Historic Preservation Act (NHPA), Archeological Resources Protection Act (ARPA), Native American Graves Protection and Repatriation Act (NAGPRA), and Executive Order 13007	<p>Cultural Resources located on lands proposed to be transferred would lose federal protection provided by the NHPA, ARPA, NAGPRA, and Executive Order 13007.</p> <p>In order to comply with Section 106 of the NHPA, Reclamation would develop a sample strategy to identify cultural resources potentially affected by this undertaking. This process is defined in 36 CFR Part 800.4(b)(1), which states: "The agency official shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey."</p> <p>The means of resolving adverse effects to historic properties recorded within the title transfer areas are difficult to project at this time because the proposed inventory has not yet been completed. The total range and complexity of historic properties remain to be determined. A Programmatic Agreement would be developed among the State Historic Preservation Office (SHPO), Reclamation, and consulting parties to describe responsibilities of recipient entities towards consideration of historic properties.</p> <p>The Record of Decision (ROD) for the EIS will include "conditional" language stating that the title transfer will not occur until full compliance with Section 106 of the NHPA has been completed by Reclamation.</p>
Indian Trust Assets	No change to existing conditions. No Indian Trust Assets are known in the project area.	No Indian Trust Assets are known to exist in the project area.

## ACRONYMS AND ABBREVIATIONS





## ACRONYMS & ABBREVIATIONS

µg/l	Micrograms per Liter
µs/cm	Microsiemens per Centimeter
ADA	Americans with Disabilities Act
ARPA	Archeological Resources Protection Act
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
AUM	Animal Units per Month
bgs	Below Ground Surface
BLM	Bureau of Land Management
°C	Degrees Celsius
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CMP	Conceptual Management Plan
CRSC	Center for Remote Sensing and Cartography
DCNR	Department of Conservation and Natural Resources
DO	Dissolved Oxygen
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
°F	Degrees Fahrenheit
EAS	Federal Aid Secondary
EIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
IMACS	Intermountain Antiquities Computer System
KGRA	Known Geothermal Resource Area
LBAO	Lahontan Basin Area Office
MCE	Maximum Credible Earthquake
MCL	Maximum Contaminant Level
mg/l	Milligrams per Liter
M & I	Municipal and Industrial
MOA	Memorandum of Agreement
NAGPRA	Native American Graves Protection and Repatriation Act
NDEP	Nevada Division of Environmental Protection
NDOW	Nevada Department of Wildlife
NDWP	Nevada Division of Water Planning
NEPA	National Environmental Policy Act
ng/l	Nanograms per liter
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NPDES	National Pollution Discharge Elimination System
NPS	National Park Service
NPU	Nephelometric Turbidity Units
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NRS	Nevada Revised Statute

NvNHIP	Nevada Natural Heritage Program
OCTA	Oregon-California Trail Association
PA	Programmatic Agreement
PCU	Platinum Cobalt Units
PCWCD	Pershing County Water Conservation District
PILT	Payment in Lieu of Taxes
P.L.	Public Law
PVA	Prospectively Valuable Area
Reclamation	Bureau of Reclamation
RMP	Resource Management Plan
ROD	Record of Decision
SAR	Sodium Adsorption Ratio
Secretary	Secretary of the Interior (U. S. Department of the Interior)
SHPO	State Historic Preservation Office
State Parks	Nevada Division of State Parks
TCP	Traditional Cultural Property
UNR	University of Nevada, Reno
USBR	U. S. Bureau of Reclamation
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
WMA	Wildlife Management Area

## CHAPTER 1 – INTRODUCTION



# 1.0 INTRODUCTION

## 1.1. INTRODUCTION

The United States Department of the Interior, Bureau of Reclamation (Reclamation) has prepared this Environmental Impact Statement (EIS) to evaluate the potential impacts of the proposed Humboldt Project Conveyance, commonly known as the Humboldt Project Title Transfer. The Humboldt Project (Project) located in north central Nevada is a Reclamation storage project. Authorized in 1933, the Project includes federal lands that were withdrawn from the public domain and dedicated to the Project (withdrawn lands), and private lands that were purchased for dedication to the Project (acquired lands).

The proposed title conveyance is authorized under Title VIII of Public Law 107-282, Humboldt Project Conveyance (Act) dated November 5, 2002. The Act directs the Secretary of the Interior (Secretary) to convey all right, title, and interest in and to the lands and features of the Humboldt Project, including all water rights for storage and diversion, to the Pershing County Water Conservation District (PCWCD), the State of Nevada (State), Pershing County, and Lander County consistent with the terms and conditions set forth in the Memorandum of Agreement between PCWCD and Lander County dated January 24, 2000; the Conceptual Agreement between PCWCD and the State of Nevada dated October 18, 2001; the Letter of Agreement between Pershing County and State of Nevada dated April 16, 2002; and any agreements between Reclamation and PCWCD. A Memorandum of Agreement between the Reclamation and PCWCD was entered into on May 6, 2004.

The Humboldt Project includes three primary features – Humboldt Sink, Rye Patch Dam and Reservoir, and the Community Pasture. The Humboldt Sink encompasses approximately 32,650 acres of withdrawn lands in Pershing and Churchill Counties. The Rye Patch Reservoir, located in Pershing County approximately 25 miles north of Lovelock, includes approximately 8,460 acres of withdrawn lands and approximately 12,340 acres of acquired lands. The Community Pasture encompasses approximately 30,000 acres of acquired pasture lands located in or near the unincorporated town of Battle Mountain.

Non-Reclamation project features, including water distribution and drainage facilities in the Lovelock Valley and lands owned by the PCWCD, are not included in this transfer and are not subject to environmental review under the National Environmental Policy Act (NEPA).

The title transfer involves approximately 83,530 acres of federal lands associated with the Humboldt Project. Under the proposed transfer, title of these lands would be conveyed as follows:

Pershing County Water Conservation District – All acquired lands in the Rye Patch Reservoir area, and all withdrawn lands below the reservoir high water mark and approximately 22,500 acres of acquired land in the Community Pasture.

State of Nevada – The State of Nevada will receive approximately 31,660 acres of withdrawn Reclamation lands in the Humboldt Sink, and certain withdrawn lands above the Rye Patch Reservoir high water mark. Approximately 5,850 acres of acquired land in the Battle Mountain Community Pasture would transfer to the State of Nevada to be managed by Nevada Department of Wildlife (NDOW) for the purpose of creating a wetland.

Lander County – Lander County would receive title to four parcels totaling approximately 1,100 acres in the Battle Mountain Area

Pershing County – Pershing County would receive approximately 990 acres of withdrawn

Reclamation lands adjacent to the Derby Airfield in the Humboldt Sink.

## **1.2. PURPOSE AND NEED**

The purpose of this action is to transfer the Humboldt Project from federal ownership to PCWCD, State of Nevada, Lander County, and Pershing County. The action is needed to comply with Title VIII of Public Law 107-282 (**Appendix B**) which directs the Secretary to transfer title of the Humboldt Project to the above named entities.

## **1.3. TITLE TRANSFER PROCESS**

Reclamation policy requires that title transfers be carried out in an open and public manner. In addition to satisfying NEPA requirements, this EIS evaluates the proposed title transfer using the following six broad public interest criteria, as defined by the *Framework for the Transfer of Title: Bureau of Reclamation Projects* dated August 7, 1995. A copy of the document can be found in **Appendix A**.

- The Federal Treasury, and thereby the taxpayer's financial interest, must be protected;
- There must be compliance with all applicable state and federal laws;
- Interstate compacts and agreements must be protected;
- The Secretary of the Interior's Native American trust responsibilities must be met;
- Treaty obligations and international agreements must be fulfilled; and
- The public aspects of the project must be protected

The title transfer program is being implemented throughout the western states in which Reclamation has developed water and power projects. In recent years, Reclamation has completed a number of title transfers for lands, facilities, and other assets associated with federal projects.

## **1.4. PROJECT LOCATION AND DESCRIPTION**

The Humboldt Project, located in the high desert of north central Nevada, includes the Humboldt Sink, the Rye Patch Dam and Reservoir, and the Battle Mountain Community Pasture. These areas are contained within three separate noncontiguous areas along the Humboldt River. The Humboldt River is the longest river within the State of Nevada and is the major source of irrigation water for the Humboldt Project. Project lands range in elevation from approximately 3,900 to 4,100 feet in the Humboldt Sink and Rye Patch Reservoir area to over 4,500 feet in the Battle Mountain Community Pasture. Project lands are surrounded by the Eugene Mountains, West Humboldt, and Trinity Ranges in the lower reaches of the Humboldt River, and the Battle Mountain, Sheep Creek, and Shoshone Ranges in the upper reaches near Battle Mountain.

### **1.4.1. Humboldt Sink**

The Humboldt Sink consists of two noncontiguous segments at the terminus of the Humboldt River. The northeast segment includes the Toulon Lake, Humboldt Lake, and Humboldt drainage, and the southwest segment includes the White Plains area (Figure 2). The area is located between the West Humboldt Range to the southeast and the Trinity Range to the northeast. In total, approximately 32,650 acres of withdrawn lands located in Pershing and Churchill Counties are included in the proposed title transfer. The northern extent is located approximately 10 miles south of Lovelock, the county seat of Pershing County, Nevada and approximately 80 miles northeast of the Reno/Sparks area.

Since 1957, portions of the Humboldt Sink have been managed by NDOW as the Humboldt Wildlife

Management Area (Humboldt WMA), also called Humboldt-Toulon. The Humboldt WMA is fed by both natural flow of the Humboldt River and the drain system carrying tail water from the irrigated lands of the PCWCD. At the southwest end of the Humboldt Sink is the Humboldt Dike, a naturally formed feature that rises over 100 feet above the Humboldt Sink to the north and the White Plains to the south. The dike is breached where the Humboldt River cuts through to allow water to flow from the Humboldt Lake to the White Plains (referred to as the Humboldt Slough or Canal). In extremely wet years the Humboldt Sink discharges to the Carson Sink via this drainage.

### **1.4.2. Rye Patch Dam and Reservoir**

The Rye Patch Dam and Reservoir are located on the Humboldt River about 26 miles upstream from Lovelock, and approximately 22 miles from the northern extremity of the PCWCD service area. The lands to be transferred include approximately 8,460 acres of withdrawn lands and approximately 12,340 acres of acquired lands. The reservoir is about 21 miles long, has approximately 72 miles of shoreline and covers approximately 12,000 acres when full. The dam is an earth-fill rock-faced structure with a height of 78 feet and a crest length of 1,074 feet, and has a storage capacity of approximately 213,000 acre-feet (USBR 1976).

The Nevada Division of State Parks (State Parks) operates and maintains the Rye Patch State Recreation Area facilities at Rye Patch, although the management agreement with Reclamation and the PCWCD has expired. The park entrance, located at the southern end of Rye Patch Reservoir, is approximately 1 mile west of Interstate 80 (I-80) via Federal Aid Secondary Road (FAS) 401. Access to other areas within the Park is available from numerous dirt roads and jeep trails and by boat.

### **1.4.3. Battle Mountain Community Pasture**

The Battle Mountain Community Pasture is located approximately 125 miles upstream of the northern end of Rye Patch Reservoir and is traversed by the Humboldt, Rock Creek and Reese River. The lands to be transferred include approximately 30,000 acres of acquired lands north of Interstate 80, with a few isolated parcels south of the interstate. There are pasture lands primarily north and east of the unincorporated town of Battle Mountain, the county seat of Lander County, Nevada. Project lands are accessible by several paved and unimproved roads.

In addition, several Reclamation-acquired parcels in and near the Town of Battle Mountain are included in the proposed title transfer. These properties include lands adjacent to the Livestock Events Center, a metal building adjacent to the County complex used by PCWCD as a maintenance shop and a vacant parcel adjacent to the sewage treatment plant on the western edge of town. Also included in the transfer are the ranch manager's house and various farm-related structures, and the Slaven Diversion Dam located on the Humboldt River near the eastern boundary of the Community Pasture (**Appendix E**).

## **1.5. PROJECT BACKGROUND**

### **1.5.1. Project History**

Historical accounts of the Humboldt Project are taken from the *U. S. Bureau of Reclamation History Program, Humboldt Project* (Autobee 1993), the *Nevada Water Basin Information and Chronology Series, Humboldt River Chronology* (NDWP 2004d), and numerous unpublished reports obtained during the course of this study. **Section 3.10.1** provides a detailed analysis of cultural resources in the project area.

The first attempt to provide reliable water storage facilities for the Lovelock Valley began in the early 1900s. The Humboldt-Lovelock Irrigation Light & Power Company constructed the Pitt-Taylor Reservoirs, located upstream of Lovelock, Nevada with a combined reservoir capacity of 49,000 acre-feet. These reservoirs soon proved to be inadequate as demands for the waters of the Humboldt River increased and the reservoirs lacked available water during dry years (Autobee 1993).

As the settlement of the Humboldt Basin progressed, increasing use of water on lands in the upper reaches of the river basin created shortages for lower basin water users. In response to the problem, the Nevada State Engineer ordered a general adjudication of the Humboldt River system in 1923. After years of judicial challenges, the Humboldt River adjudication was finalized by order of the Nevada Supreme Court in 1938 when it affirmed the Humboldt River Decree.

The Lovelock Irrigation District was organized in 1926 for the primary purpose of exploring possible storage sites on the Humboldt River. To facilitate the construction of such a project, the District reorganized as a quasi-governmental entity under the Nevada Irrigation District Act and changed its name to the Pershing County Water Conservation District.

In the early 1930s, PCWCD began negotiations with Reclamation for the construction of the Humboldt Project. The Humboldt Project was authorized for construction under the National Industrial Recovery Act of June 16, 1933 and approved in August 1933. The Humboldt Project was found feasible by the Secretary on November 1, 1935, and approved by President Franklin D. Roosevelt on November 6, 1935.

After studying several locations for reservoir construction, PCWCD and Reclamation decided on the present site of Rye Patch Reservoir. However, to make the Project feasible, PCWCD needed to acquire water to store in the proposed reservoir through the purchase of water rights. To this end, the PCWCD directors located willing sellers in Lander County, and in January 1934 entered into purchase agreements with several ranch owners in the Battle Mountain and Valmy areas. Two of the willing sellers were the Filippini family, who owned Argenta Ranch and Muleshoe Ranch, and the Aldous family, who owned the Aldous Ranch. These three ranches eventually become the Community Pasture. In total, PCWCD contracted to acquire more than 30,000 acres of land and appurtenant water rights from these two large ranches just outside Battle Mountain, and an additional 30,580 acre-feet of water rights from nearby properties.

In late 1934, to facilitate the transfer of water rights to storage at Rye Patch for ultimate use on PCWCD lands, PCWCD assigned its right under the ranch and water right purchase agreements to the U. S. Government. These agreements were assigned to Reclamation, which advanced the money for the sale price of the ranches. PCWCD entered into a repayment contract with Reclamation for the construction of Rye Patch Dam and the purchase price for the lands and water rights on October 1, 1934, and supplemental contract dated August 8, 1941. The contract provided for the full repayment of all Project-related construction and acquisition costs over a 40-year period.

Construction of Rye Patch Dam began in January 1935, and was completed in January 1936, with a design capacity of 170,000 acre-feet. Because of the drought conditions and legal problems with the Pitt-Taylor Reservoirs, Rye Patch was not initially filled to full capacity.

In 1934, the Humboldt Sink was withdrawn from the public domain as part of the Humboldt Project. Reclamation withdrew these lands out of concern for responsibility for flood damage which might occur as a result of Project operations. In 1957, the Nevada Fish and Game Commission entered into a 25-year land use agreement with Reclamation on approximately 18,179 acres within the Humboldt Sink. The purpose of the lease and land use agreements was to preserve the wetland habitat within the Humboldt Sink for the benefit of waterfowl, shorebirds and other wildlife, and to provide hunting opportunity for



sportsmen (Bull and Richards 2003).

In the early 1940s, with all water transfers completed, legal problems resolved, and operating methods established, PCWCD assumed the operation and maintenance of the Humboldt Project, including Rye Patch Dam and the purchased lands in Lander County.

In 1955, PCWCD entered into a contract with the United States for the rehabilitation and betterment of works of the Humboldt Project (Contract No. 14-06-200-429). This contract provided for improvements to the Battle Mountain Development and Collection System, a part of which is located on the Battle Mountain Community Pasture. This contract, as well as the original construction contract, called for repayment by PCWCD for all funds expended by the United States for Project costs. Final payment of these obligations was completed in 1978.

According to the Lander County Memorandum of Agreement, at the time of purchase of the Lander County ranches, and within the area of the Argenta Ranch and the Muleshoe Ranch, there existed an area known as the Argenta Marsh. After the transfer of the water rights from Lander County ranches, and as part of the water rights change approvals, the Nevada State Engineer ordered that the lands be dewatered. In 1955, the marsh area was channelized to improve water conveyance in the Humboldt River adjacent to those lands (**Appendix E**).

In 1975, PCWCD entered into a contract with the United States for the rehabilitation and betterment of Rye Patch Dam (Contract No. 14-06-200-8194A). The dam height was increased by 3 feet, and the total storage capacity of Rye Patch Reservoir was increased to 213,000 acre-feet. The contract required PCWCD to repay the costs of these improvements. Final payment of these obligations was made in 1995.

In the early 1990s, Reclamation determined that some modifications to Rye Patch Dam would be necessary to protect the integrity of the actual dam structure. This work was completed in 1996, and Rye Patch Reservoir was filled to a capacity of 213,000 acre-feet. Modification costs totaled approximately \$7.7 million. Of this amount, PCWCD was required to repay 15 percent (approximately \$1.1 million) of the total modification costs over an 8-year period. PCWCD completed repayment to the United States for its portion of the modification costs in 2002.

### **1.5.2. Title Transfer Effort**

The current title transfer effort was initiated by PCWCD in 1996. Members of the Nevada Congressional delegation introduced title transfer legislation in 1982 and then again in 1991. In 1982, HR 5652 was introduced to “authorize and direct the Secretary of the Interior to convey real property to the Pershing County Water Conservation District.” The bill failed after the Department of Interior indicated that they had not finished developing title transfer guidelines.

Title transfer legislation was again proposed in 1991. HR 1038, titled the Battle Mountain Pastures Restoration Act of 1991, was introduced to convey the Community Pasture to the PCWCD. A companion bill was also introduced in the Senate (SB 357). Neither of these bills were enacted into law.

On August 7, 1995, Reclamation adopted the “Guidelines and Framework for the Transfer of Title – Bureau of Reclamation Projects.” This document established a collaborative, proactive approach to title transfers in an effort to resolve major concerns before legislation was introduced in Congress (**Appendix A**).

Since 1996, PCWCD has been engaged in ongoing communications and negotiations with Reclamation,

the State of Nevada, Lander County, Pershing County, environmental and various other public interest groups regarding the current title transfer effort. Prior to the preparation of this EIS, PCWCD, with the assistance of Reclamation, held scoping meetings to identify the public's concerns and resource issues. In subsequent discussions, the State of Nevada and Lander and Pershing Counties reached tentative agreements regarding future land ownership and use subsequent to transfer, including enhanced wildlife habitat, recreation opportunities and minimum operational pool requirements in Rye Patch Reservoir.

In January 2000, the Lander County Board of Commissioners and the PCWCD Board of Director's drafted a Conceptual Memorandum of Agreement (**Appendix E**) to define the proposed transfer of lands from Reclamation to Lander County and PCWCD. This agreement supported the title transfer and included language requesting transfer of approximately 1,100 acres of Community Pasture lands in the vicinity of the unincorporated town of Battle Mountain to Lander County. Proposed uses for these lands include the potential development of an industrial park in the vicinity of the sewage treatment facility, expansion of the County Fairgrounds adjacent to the Livestock Events Center, and the transfer of an existing maintenance building currently used by PCWCD to Lander County. In addition, a low-maintenance public recreation site, adjacent parking area, and access easements along the Humboldt River were proposed. The access easement would be subject to certain restrictions, including maintenance of the easement area in its natural state and allowing day use and foot traffic only.

In October 2001, the State of Nevada drafted and signed a letter of Conceptual Agreement outlining the concepts of the agreement between the State and PCWCD (**Appendix F**). The parties agreed to support legislation that transfers ownership of lands in the Battle Mountain Community Pasture, Rye Patch Reservoir, and lands within the Humboldt Sink from the federal government to the State of Nevada and PCWCD.

On April 16, 2002, the Pershing County Board of Commissioners provided specific language requesting transfer of portions of the Humboldt Sink near the Derby Airfield to Pershing County (**Appendix F**).







On November 5, 2002, Title VIII of Public Law 107-282, Humboldt Project Conveyance Act was signed into law (**Appendix B**).

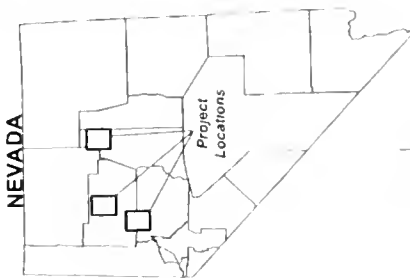
## **1.6. SCOPE OF THIS EIS**

Reclamation is the lead agency in this NEPA review of the proposed title transfer. PCWCD is a cooperating agency under NEPA for this EIS. The Proposed Action would transfer lands from federal ownership to the PCWCD, the State of Nevada, and Pershing and Lander Counties. With the exception of the portion of the Community Pasture lands proposed to be transferred to the State of Nevada, and the isolated parcels proposed to be transferred to Pershing and Lander Counties, there would be no substantial change by the receiving entities in overall existing resource management.

PCWCD would continue to operate the Rye Patch Dam and Reservoir in a manner similar to its current agreement with Reclamation. The remaining pasture land in the Battle Mountain Community Pasture would continue to be managed by PCWCD on behalf of its constituents for livestock grazing. NDOW would continue to manage lands within the Humboldt Sink as a Wildlife Management Area and State Parks would continue to manage the Rye Patch State Recreation Area. Lands proposed to be transferred to Pershing and Lander Counties, and the Community Pasture lands proposed to be transferred to the State may undergo a change in land use. Chapter 3, Affected Environment and Environmental Consequences, describes the approach used in this EIS to define changes in land use that may occur in the Project area and analyzes the environmental effects that could occur as a result of the proposed title transfer.

# Legend

-  County Boundary
-  Project Areas
-  Highway
-  PCWCD Boundary
-  Land Transfer Locations
-  City

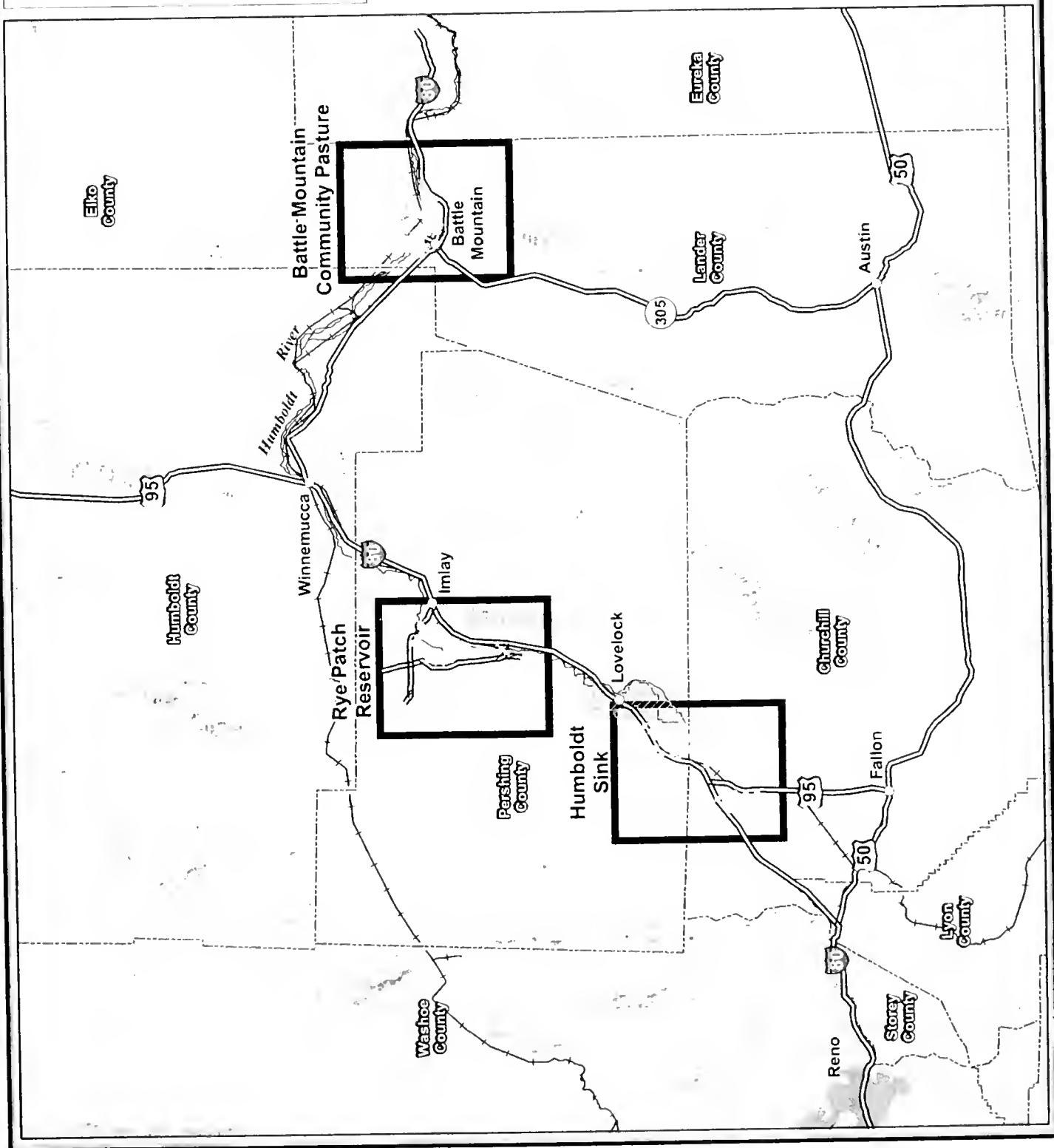


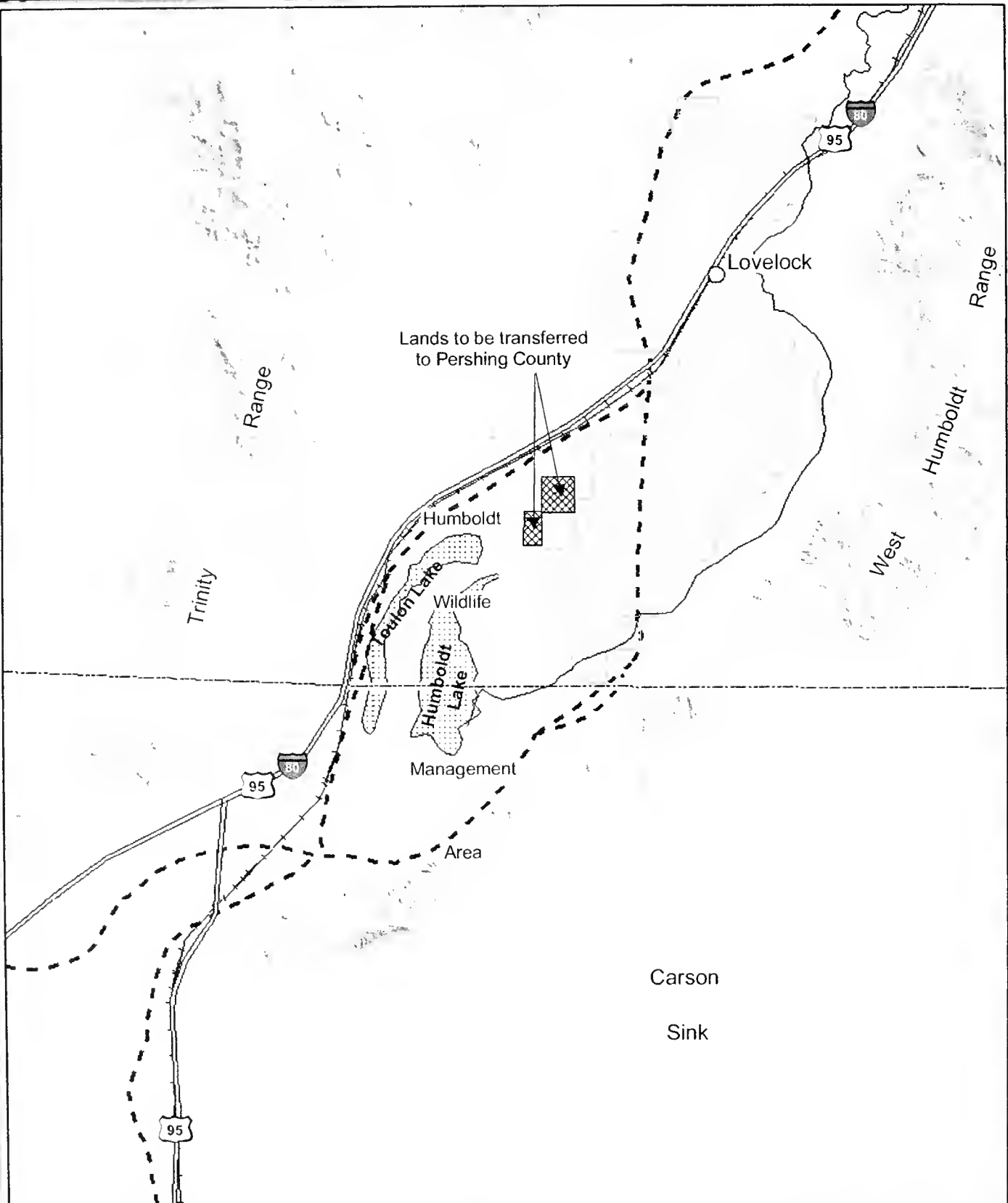
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Humboldt Project Conveyance EIS

Figure 1: Project Area Map

Date: 01/13/05 File: P001 AREA Author: [illegible]





#### Legend

- |                        |                 |
|------------------------|-----------------|
| ○ City                 | Withdrawn       |
| == Highway             | PCWD Boundary   |
| + Railroad             | Derby Field     |
| - - - California Trail | County Boundary |
| — River                | Lake            |



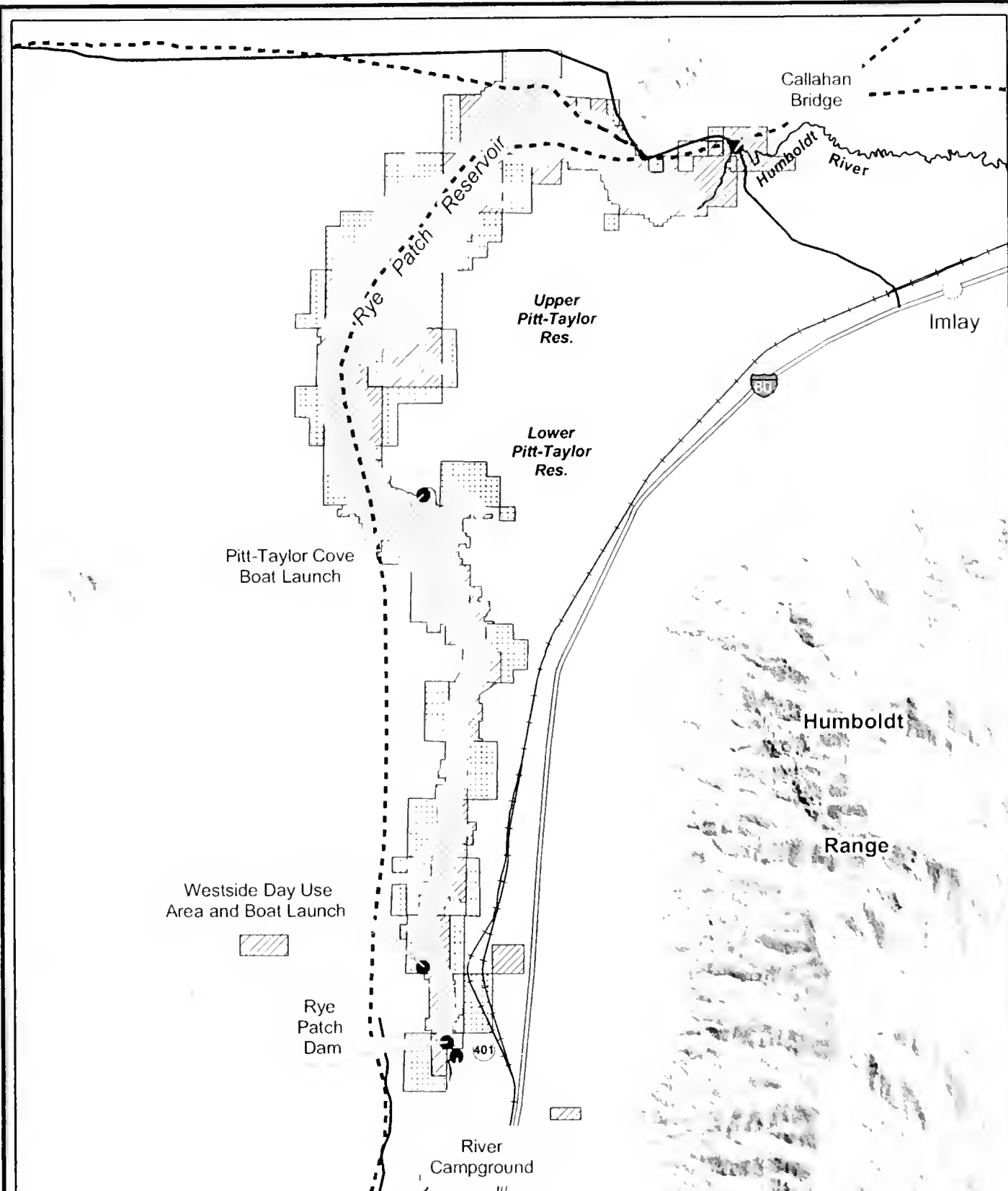
DRAFT

Universal Transverse Mercator Projection  
1983 North American Datum  
Units Meters  
Zone 11

Humboldt Project Conveyance EIS

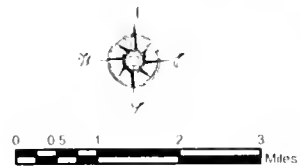
**Figure 2:  
Humboldt Sink**

Date: 01/13/05 Site: HUMBOLDT Author: smh



**Legend**

○ City	Unpaved Road
== Highway	Acquired PCWCD
+ Railroad	Withdrawn State
- - California Trail	Withdrawn PCWCD
— Road	



DRAFT

Universal Transverse Mercator Projection  
1983 North American Datum  
Units: Meters  
Zone 11

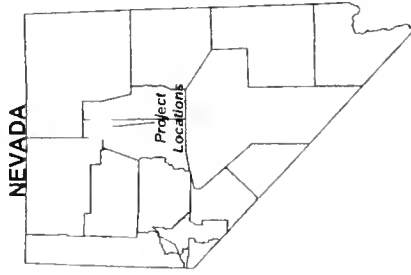
**Humboldt Project Conveyance EIS**

**Figure 3:  
Rye Patch Reservoir**

Date: 01/11/01 By: RYE PATCH Author: msh

# Legend

- Battle Mountain Indian Colony
- California Trail
- City
- Lander County
- State of Nevada
- PCWCD
- Highway/Road
- Railroad



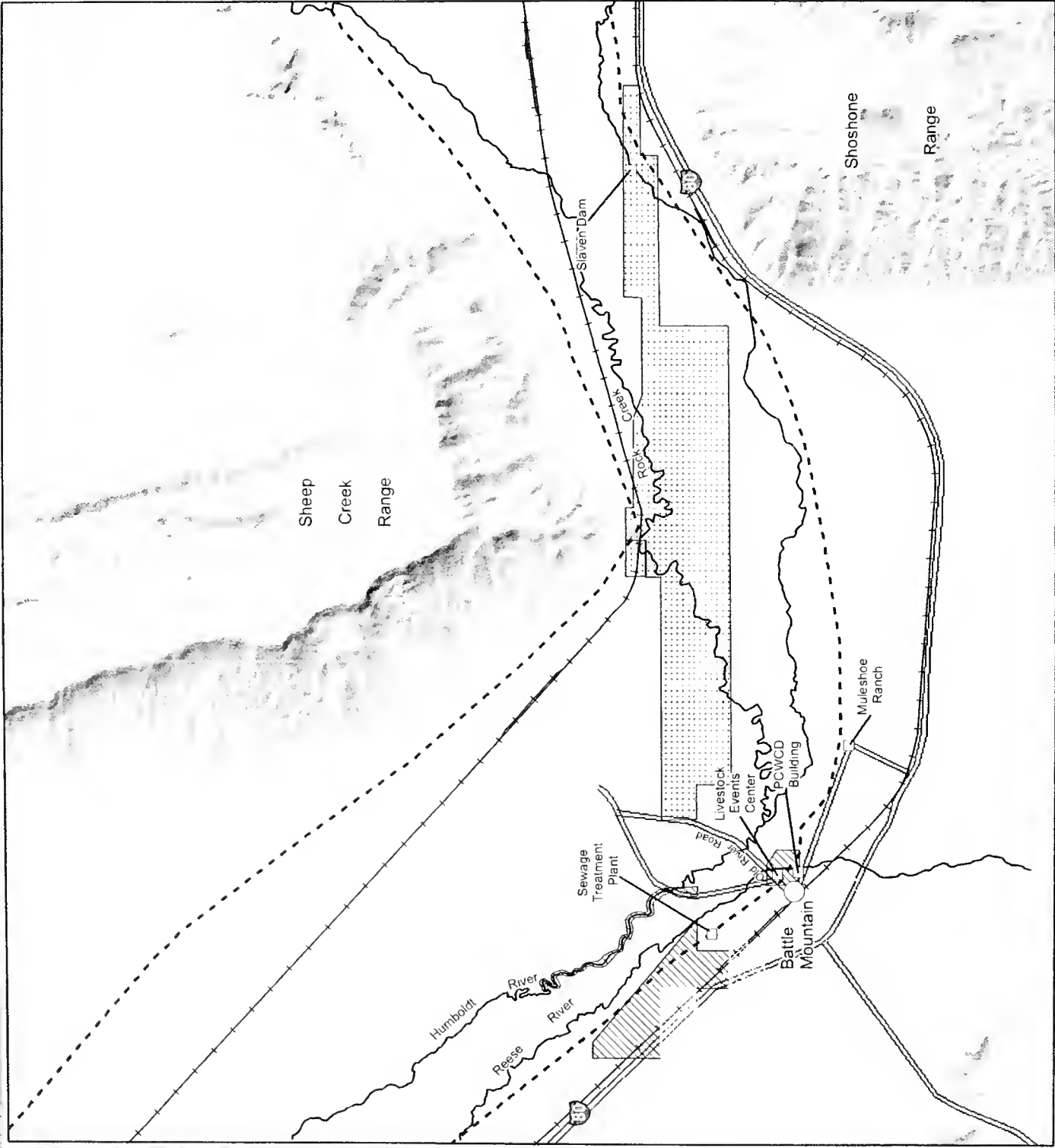
0 0.5 1 2 Miles  
 Universal Transverse Mercator Projection  
 1983 North American Datum  
 Units: Meters  
 Zone 11

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Humboldt Project Conveyance EIS

Figure 4: Battle Mountain Community Pasture

DATE: 01/12/01 BY: BATTLE AUTHOR: mch



## **CHAPTER 2 – DESCRIPTION AND ALTERNATIVES**





## 2.0 PROPOSED ACTION AND ALTERNATIVES

This section describes the alternatives that were considered in the development of this EIS. It outlines the scoping process that was used to solicit comments from interested stakeholders and the issues that were identified. The Proposed Action and No Action Alternatives are described along with alternatives that were considered but dismissed from detailed analysis. The environmental effects of the alternatives are also summarized and compared.

### 2.1. PUBLIC INVOLVEMENT/SCOPING

The scoping process was conducted to provide federal, state, and local agencies; organizations; and interested individuals with the opportunity to provide input on key issues and concerns that they believe should be evaluated in the EIS.

The objectives of scoping for the proposed project included:

- Identification of significant issues related to the proposed title transfer;
- Determination of the range of alternatives to be evaluated;
- Identification of environmental review and consultation requirements;
- Identification of interested and affected public; and
- Providing information to the public regarding the project.

Two notices were published in the Federal Register regarding the proposed title transfer. The first notice was published on February 26, 2003 [68 FR 8924] and indicated Reclamation's intent to prepare an EIS. The second notice, a Notice of Public Scoping, was published in the Federal Register on January 14, 2004 [69 FR 2157] and announced that two scoping meetings would be conducted in February 2004 to receive public input on issues to be addressed in the draft EIS. In addition, a scoping letter was mailed to approximately 250 federal, state, and local agencies; organizations; and interested individuals. Notices were also placed in four local newspapers (Reno-Gazette Journal, February 15-19, 2004; The Humboldt Sun, February 13-16, 2004; The Lovelock Review-Miner, February 12, 2004; and the Elko Daily Free Press, February 9, 2004).

The scoping meetings were held on the dates and locations listed below:

- February 18, 2004, Battle Mountain Civic Center, Battle Mountain, Nevada;
- February 19, 2004, Washoe County Bartley Ranch Park, Reno, Nevada

Approximately 26 people attended the Battle Mountain and Reno meetings. An interagency scoping meeting was also held during the day on February 19, 2004. Sixteen comments were received during the scoping meetings and 23 letters were received by Reclamation during and immediately after the comment period.

#### 2.1.1. Identification of Key Issues

It is Reclamation's intent to address all of the issues brought up during scoping. A summary of comments received are listed in **Appendix J**. A complete set of the written comments are available as part of the public record for the project.

## **2.2. DESCRIPTION OF ALTERNATIVES**

Two alternatives are evaluated in this EIS: (1) the No Action Alternative, under which all interests the United States holds in the Humboldt Project would remain in federal ownership; and (2) the Proposed Action, under which Reclamation would transfer title to all interests the United States holds in the Humboldt Project to the PCWCD, the State of Nevada, Lander County, and Pershing County.

### **2.2.1. Proposed Action/Preferred Alternative**

The Proposed Action would transfer approximately 83,530 acres of federal lands associated with the Humboldt Project to PCWCD, the State of Nevada, Pershing County, and Lander County. The following section describes Proposed Actions for each title transfer area.

#### **2.2.1.1. Humboldt Sink**

The Proposed Action would transfer Reclamation withdrawn lands within the Humboldt Sink from Reclamation to the State of Nevada and Pershing County. In accordance with the Humboldt Project Conveyance Act and related agreements, the State of Nevada would receive title to approximately 31,660 acres of land within the Humboldt Sink. NDOW would continue to operate and maintain these lands as part of the Humboldt WMA. Pershing County would receive approximately 990 acres of land adjacent to Derby Airfield for future airport expansion.

#### **2.2.1.2. Rye Patch Dam and Reservoir**

The Proposed Action would include transfer of all acquired lands in the Rye Patch Reservoir area to the PCWCD. All withdrawn lands below the reservoir high water mark would transfer to the PCWCD. All withdrawn lands above the reservoir high water mark would transfer to the State. State Parks would continue to operate and maintain the recreation facilities at the Rye Patch State Recreation Area.

PCWCD has agreed to maintain a minimum operational pool of 3,000 acre-feet in Rye Patch Reservoir to sustain the fishery. To maintain this minimum pool, PCWCD would reduce or cease all releases when the reservoir reaches a minimum of 3,000 acre-feet of storage. PCWCD would be responsible for updates to the Standing Operating Procedure Emergency Action Plan as required by the State of Nevada, Safety of Dams Program.

#### **2.2.1.3. Battle Mountain Community Pasture**

The Proposed Action would transfer acquired lands within the Battle Mountain Community Pasture from Reclamation to PCWCD, the State of Nevada, and Lander County. PCWCD would receive title to approximately 22,500 acres within the Battle Mountain Community Pasture to be managed and operated for the continuation of grazing purposes.

The State of Nevada would receive title to approximately 5,850 acres of land in the Community Pasture for purposes of creating a wetland. The land to be transferred is identified as the northern portion of the Community Pasture from the eastern boundary through Rock Creek drainage to the River Road adjacent to the Old Blossom Road Field #15. PCWCD would continue to graze livestock on the land transferred to the State until such time as development of a wetland begins. Wetland development would depend on the acquisition of water rights by NDOW or other entity wishing to pursue such actions.

The State of Nevada would assume responsibility for operation and maintenance of Slaven Diversion

Dam near the east end of the Community Pasture in conjunction with other beneficial uses of the facility when it is needed to divert water to the developed wetland. After title to the facility is transferred to the State and before it is needed for diversion of water to the wetland, PCWCD would continue to operate and maintain the dam and appurtenant structures.

In addition, Lander County would receive title to four parcels totaling approximately 1,100 acres in the Battle Mountain area. Proposed uses for these lands include development of the industrial area adjacent to the sewage treatment plant, expansion of the Livestock Event Center, a new primitive day-use recreation area and parking lot, and access easements along the Humboldt River. The access easement would be subject to certain restrictions, including maintaining the easement area in its natural state, day-use only, and access limited to foot traffic only.

## **2.2.2. No Action Alternative**

Under the No Action Alternative, the title transfer would not occur and the lands and associated water rights and improvements associated with the Humboldt Project would continue to be held by the United States and managed by PCWCD according to the purposes for which the project was authorized. The State of Nevada could continue to operate lands and features within the Humboldt Project pursuant to existing agreements and contracts.

If the title transfer were not to occur, Reclamation may choose to prepare a Resource Management Plan (RMP) to guide future decisions for project lands. The purpose of the RMP is to establish guidelines for the conservation, protection, development, use enhancement, and management of federal lands and associated resources with a goal to maximize overall public and resource benefits (USBR 2003a). Preparation and implementation of an RMP is subject to Congressional funding.

### **2.2.2.1. Humboldt Sink**

Under the No Action Alternative, federal lands within the Humboldt Sink could continue to be managed by PCWCD under the Humboldt Project with the operation and maintenance of the Humboldt WMA provided to NDOW by contract. Proposed transfer of lands to Pershing County for expansion of the Derby Airfield would not occur.

### **2.2.2.2. Rye Patch Dam and Reservoir**

Under the No Action Alternative, PCWCD would continue to operate the Rye Patch Dam and Reservoir in accordance with its contracts with Reclamation. State Parks could continue to manage the Rye Patch State Recreation Area through a tri-party agreement with Reclamation and PCWCD. The proposed transfer of lands to PCWCD and State Parks would not occur. Reclamation would be required to perform safety inspections of Rye Patch Dam and prepare Comprehensive Facility Reviews on a bi-annual basis. In addition, Reclamation would be required to update the Standing Operating Procedure Emergency Action Plan in compliance with the Safety of Dams Program.

### **2.2.2.3. Battle Mountain Community Pasture**

Under the No Action Alternative, Project lands within the Community Pasture would continue to be operated by PCWCD for grazing purposes. The proposed transfer of lands within the Community Pasture to PCWCD, the State of Nevada, and Lander County would not occur. The State of Nevada would not receive Project lands for wetlands development. Lander County would not receive title to the four parcels totaling approximately 1,100 acres. However, Lander County could pursue land acquisition through a

separate action or enter into a tri-party lease to use the lands with Reclamation and PCWCD.

#### **2.2.2.4. Alternatives Considered But Eliminated From Detailed Analysis**

Several alternatives to the proposed title transfer were suggested during scoping. All alternatives were fully considered but only the Proposed Action and No Action Alternative were included for detailed analysis. Alternatives were evaluated as to whether they met the basic Purpose and Need of the Proposed Action. A summary of comments, including suggested alternatives, received during scoping are provided in **Appendix J**. The section below discusses some of the primary comments/alternatives provided during scoping.

#### **2.2.2.5. Development of a Wetland Marsh in the Battle Mountain Community Pasture**

A number of comments and suggested alternatives received advocated the development of a wetland marsh in the Battle Mountain Community Pasture. This alternative would restore some portion of what was historically known as the Argenta Marsh along the historic Humboldt River corridor. Generally the comments suggested a larger size wetland and more wetlands than what is proposed in this EIS, including water rights acquisition for potential wetland development. The size of the proposed wetland in the Proposed Action was outlined in the Conceptual Letter of Agreement between the State of Nevada and the PCWCD dated October 2001. This agreement stated that the State of Nevada would receive title to approximately 5,850 acres of land in the Community Pasture for purposes of establishing a wetland. The land to be transferred is located in the northern portion of the Community Pasture, extending from the eastern boundary through Rock Creek drainage to the River Road adjacent to the Old Blossom Road Field #15.

The purpose of this EIS is to address the environmental and human impacts of transferring title of the Humboldt Project from federal ownership to non-federal entities and to comply with Title VIII of Public Law 107-282, Humboldt Project Conveyance Act. The Humboldt Project Conveyance Act and the *Framework for the Transfer of Title: Bureau of Reclamation Projects* contain language specific to this action. Water rights associated with the Humboldt Project, and their allowable uses, are based on specific legislation and decrees governing the use of Humboldt River water. Therefore, addressing water rights acquisition for potential wetland development is beyond the scope of this EIS. A discussion regarding Humboldt Project water rights is described in **Section 3.2.4**.

### **2.3. SUMMARY TABLE OF IMPACTS**

**Table 2.1-1** summarizes and compares the environmental impacts that would result from implementation of the Proposed Action and No Action alternatives. More detailed analysis on the impacts associated with each resource or issue listed in the table is presented in **Chapter 3, Affected Environment / Environmental Consequence**.

TABLE 2.1-1  
SUMMARY OF IMPACTS

Resource	No Action Alternative	Proposed Action / Preferred Alternative
Land Resources and Use	<p>The United States would continue to hold title pursuant to its contract(s) with PCWCD. PCWCD would continue to manage the lands according to the purposes for which the Project was authorized, subject to existing agreements and contracts with the State and Reclamation.</p> <p>Reclamation may choose to prepare a Resource Management Plan (RMP) pursuant to its contract(s) with PCWCD to guide future land resources decisions for Project lands. Preparation and implementation of an RMP is subject to Congressional funding (USBR 2003a).</p>	<p>Reclamation lands would be transferred to PCWCD, State of Nevada, and Pershing and Lander Counties. Subsequent to the title transfer, receiving entities could sell or commercially develop the lands they receive under the Proposed Action. However, with the exception of parcels going to Pershing and Lander Counties, such action is unlikely.</p> <p>Land transferred to PCWCD and the State of Nevada are not anticipated to be commercially developed, as this would depart significantly from these entities' basic missions. PCWCD's primary purpose is to provide irrigation water to its constituents. NDOW's primary purpose is the management of wildlife habitat within the State of Nevada, and State Parks' purpose is the management of recreational resources in the State.</p>
Surface Water	<p>No change to existing condition. Lands and associated water rights and improvements would continue to be held by the PCWCD patrons, PCWCD and the United States.</p> <p>Under the No Action Alternative, PCWCD would not be required to maintain the minimum operational pool criteria.</p>	<p>With the exception of the proposed minimum operational pool criteria, impacts to surface water storage and use would not change. PCWCD has agreed to maintain a minimum operational pool of 3,000 acre-feet in Rye Patch Reservoir to sustain the fishery. PCWCD would reduce or cease all releases from Rye Patch when the reservoir reaches a minimum of 3,000 acre-feet of storage. Impacts to surface water use on other Project lands would not change.</p> <p>Under the Proposed Action, the State of Nevada would receive title to approximately 5,850 acres of land in the Community Pasture for wetland development. These lands do not have water rights. Water rights acquisition for wetland development would be the responsibility of the receiving entity.</p>
Groundwater	No change to existing condition	<p>Under the Proposed Action, impacts to groundwater in the Humboldt Sink and Rye Patch Reservoir would be the same as those under the No Action Alternative. Lands within the Battle Mountain Community Pasture proposed to be transferred to Lander County for industrial development may require the use of groundwater. The Battle Mountain Water and Sewer Department would be responsible to supply any additional Municipal and Industrial (MI&amp;I) water to lands acquired for such purposes. At this time, the Battle Mountain Water and Sewer Department does not anticipate restrictions on acquiring water supplies for additional MI&amp;I use.</p>

**TABLE 2.1-1  
SUMMARY OF IMPACTS**

<b>Resource</b>	<b>No Action Alternative</b>	<b>Proposed Action / Preferred Alternative</b>
Water Use	No change to existing condition	Same as No Action
Water Quality	No change to existing condition	Same as No Action
Water Rights	No change to existing conditions. Water rights would continue to be held by the United States.	Under the Proposed Action, the nine direct-flow water rights and two storage rights held in the name of the United States would be conveyed to PCWCD.
Geologic Resources	No change to existing condition	The title transfer would not affect geological resources on transfer lands. The legislation provides that all right, title, and interest in the lands is being conveyed at the time of transfer; there is no reservation of mineral rights to the United States. The transfer may impact access to mineral and geothermal leases. However the Bureau of Land Management (BLM) has not yet resolved how they intend to handle these leases.
Soil Resources	No change to existing condition	Increased public access along the Humboldt River in the Battle Mountain area may result in bank erosion or sedimentation in the river. However, given the limited population in the area, the effect is expected to be minor and similar to existing conditions.
Biological Resources	No change to existing condition. If title were retained by the United States, Reclamation would continue to comply with applicable laws regulations addressing plant, fish, and wildlife resources. All Executive Orders, regulatory requirements for wetlands under Section 404 of the Clean Water Act, and applicable state laws and regulations regarding plant, fish, and wildlife management would continue to apply to the project.	Transferring lands out of federal ownership would mean that the Endangered Species Act (ESA) compliance provisions applicable only to federal agencies would no longer apply. However other protective sections of the ESA, such as Section 9 and Section 10 would apply. All regulatory requirements for wetlands under Section 404 of the Clean Water Act and all state laws and regulations regarding fish and wildlife management would continue to apply to the project, regardless of ownership.
Hazardous Materials and Safety	No change to existing conditions	Title to the Rye Patch Dam would transfer to the PCWCD. Reclamation would no longer have the responsibility for activities related to its Safety of Dams Program. The dam safety regulatory responsibility would formally transfer to the State of Nevada, and the dam safety ownership responsibilities would transfer to the PCWCD. Liability for the structure and its operation would become the sole responsibility of the PCWCD.

**TABLE 2.1-1  
SUMMARY OF IMPACTS**

<b>Resource</b>	<b>No Action Alternative</b>	<b>Proposed Action / Preferred Alternative</b>
Recreation	<p>No change to existing conditions. State Parks would continue to manage the Rye Patch State Recreation Area under a tri-party agreement with Reclamation and PCWCD.</p> <p>Proposed recreational enhancements by Lander County for the development of a primitive day-use and parking area adjacent to the Humboldt River, a dedicated easement along the river, and expansion of the Livestock Events Center would not occur.</p>	<p>Reclamation-lands currently operated as part of the Humboldt WMA would transfer from federal ownership to the State of Nevada, with a small portion transferred to Pershing County for airport expansion.</p> <p>State Parks would continue to manage current and future recreational use and development at the reservoir.</p> <p>Lander County would receive title to approximately 1,100 acres of Community Pasture lands for the development of a primitive day-use and parking area adjacent to the Humboldt River, a dedicated easement along the river, and expansion of the Livestock Events Center.</p>
Socioeconomic	<p>No change to existing conditions. The counties would continue to receive payment in-lieu of tax (PILT) payments based on annual calculations.</p>	<p>Upon conveyance of the lands and facilities, receiving entities shall no longer be eligible to receive any future Reclamation benefits with respect to the Humboldt Project, except those benefits that would be available to other non-Reclamation districts.</p> <p>Project lands would be removed from Lander, Pershing, and Churchill Counties' PILT payment calculation. For those lands being transferred to PCWCD and the State of Nevada, the land would be exempt from the collection of property tax.</p> <p>Commercial development of lands transferred to Pershing and Lander Counties may be subject to future property taxes and additional sales tax revenues. Local assessment of property for tax purposes is usually higher than the PILT formulation.</p>
Environmental Justice	<p>No change to existing conditions</p>	<p>Lander County may develop an industrial park adjacent to the existing sewage treatment facility. The parcel is located north of lands owned by the Battle Mountain Band of the Te-Moak Tribe. Any development would be subject to county regulations.</p>

**TABLE 2.1-1  
SUMMARY OF IMPACTS**

<b>Resource</b>	<b>No Action Alternative</b>	<b>Proposed Action / Preferred Alternative</b>
Cultural Resources	No change to existing conditions. Cultural resources on federal lands would remain under federal control and subject to the federal protections provided by the National Historic Preservation Act (NHPA), Archeological Resources Protection Act (ARPA), Native American Graves Protection and Repatriation Act (NAGPRA), and Executive Order 13007	<p>Cultural Resources located on lands proposed to be transferred would lose federal protection provided by the NHPA, ARPA, NAGPRA, and Executive Order 13007. In order to comply with Section 106 of the NHPA, Reclamation would develop a sample strategy to identify cultural resources potentially affected by this undertaking. This process is defined in 36 CFR Part 800.4(b)(1), which states: "The agency official shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey."</p> <p>The means of resolving adverse effects to historic properties recorded within the title transfer areas are difficult to project at this time because the proposed inventory has not yet been completed. The total range and complexity of historic properties remain to be determined. A Programmatic Agreement would be developed among the State Historic Preservation Office (SHPO), Reclamation, and consulting parties to describe responsibilities of recipient entities towards consideration of historic properties.</p> <p>The Record of Decision (ROD) for the EIS will include "conditional" language stating that the title transfer will not occur until full compliance with Section 106 of the NHPA has been completed by Reclamation.</p>
Indian Trust Assets	No change to existing conditions. No Indian Trust Assets are known in the project area.	No Indian Trust Assets are known to exist in the project area.



## **CHAPTER 3 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**



## **3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

### **3.1. LAND RESOURCES AND USE**

#### **3.1.1. Affected Environment**

Land ownership within the Humboldt Sink and Rye Patch Reservoir areas is dominated by a “checkerboard pattern” of alternate privately and publicly held land. This ownership pattern is a result of land grant transfers from the federal government to the Central Pacific Railroad Company in the 1860s. Odd-numbered sections were granted to the railroad in a corridor extending 20 miles on each side. This 40-mile-wide corridor of alternating private and public lands follows the Humboldt River and affects land ownership in the project area. The discussion below describes land resources and use within each specific portion of the Humboldt Project.

##### **3.1.1.1. Humboldt Sink**

Project lands within the Humboldt Sink Area include approximately 32,650 acres of withdrawn lands. These lands within the Project are operated by PCWCD. The Humboldt WMA consists of approximately 18,180 acres and is managed by NDOW through an agreement with the United States and PCWCD. The larger Humboldt Sink area is a mixture of open land that includes the Humboldt WMA, dispersed rangelands, some farm residents, and Derby Airfield. There are active and inactive mining operations to the southwest, west, and east of the Humboldt Sink area. There are no irrigated farms, residential areas, or mining operations on lands proposed to be transferred. The nearest incorporated area is the City of Lovelock, which is approximately 6 miles northeast of the Humboldt Sink.

Plans that govern the development of lands and land use within the Humboldt Sink area include the Churchill County Master Plan (adopted in 2003), the Pershing County Master Plan (adopted in 2002), and the State of Nevada Humboldt Wildlife Management Area Conceptual Management Plan (developed in 2003). The parcels located in the White Plains area of Churchill County are designated vacant unclassified (Churchill County 2003). The parcels located in the Pershing County portion of the Humboldt Sink are designated Agricultural Mining Residential, Agricultural Reserve, and Open Space (Wren 2004).

Derby Airfield is a general aviation airport operated by Pershing County. The county leases the lands to be transferred under a lease agreement with the Bureau of Land Management (BLM). The lease will expire on September 4, 2010. Pershing County has no specific airport land use designation at this time. However, Pershing County is considering the development of an airport plan if title transfer occurs and the area around Derby Field is transferred to Pershing County (Wren 2004).

##### **3.1.1.2. Rye Patch Reservoir**

Project lands in the Rye Patch Reservoir include approximately 8,460 acres of withdrawn lands and approximately 12,340 acres of acquired lands, located entirely within Pershing County. The project area is designated as Open Space with the immediate surrounding lands designated as Agricultural Mining Residential, Low Density Suburban, and Commercial (Pershing County 2002). Adjacent properties are used primarily as rangeland. There are operating and abandoned mines in the general area, however, there are no active mines on lands proposed to be transferred. There are several gravel and rock pits on isolated parcels adjacent to Interstate 80, but these are not in continuous operation.

The land designated as Commercial is the area around the Interstate 80 interchange, and the Low Density Suburban zone is to the east of the project area and Interstate 80. Interstate 80 runs parallel to Rye Patch Reservoir to the east.

PCWCD operates and maintains the Humboldt Project, including Reclamation's Rye Patch Dam and Reservoir for flood control and project irrigation purposes. State Parks operates the Rye Patch State Recreation Area under a management agreement with Reclamation and the PCWCD (Contract No. 14-06-200-8273.A). The management agreement outlines provisions relating to development, administration, operation, and maintenance of recreation for the Rye Patch State Recreation Area. The operation agreement, signed on May 5, 1977, is for a renewable 25-year period. While State Parks continues to operate the recreational facilities at Rye Patch, the operation agreement has expired, and is currently being renegotiated.

### **3.1.1.3. Battle Mountain Community Pasture**

Project lands in the Battle Mountain area include approximately 30,000 acres of acquired pasture land and isolated parcels in and around the unincorporated town of Battle Mountain. Pasture lands are leased to the PCWCD to Humboldt Project irrigators for grazing livestock from the beginning of May through the end of September each year. A mixture of private and federal lands is adjacent to the Community Pasture. The Battle Mountain Band of the Te-Moak Tribe is located southwest of the lands proposed for transfer and encompasses approximately 665 acres.

Within the Community Pasture area, the predominant use of project land is open grazing with the exception of some isolated parcels within the unincorporated town of Battle Mountain. These parcels include lands underlying the Livestock Events Center and surrounding area, including the Reese River Levee, a maintenance building used by PCWCD, a vacant 932-acre parcel adjacent to the community's sewage treatment plant on the western edge of town, and the ranch manager's house and various farm-related structures at the Muleshoe Ranch, including a barn (in use), and an unused bunkhouse.

Land use designations for this area are established by the Lander County Master Plan (Lander County 1997). Updates to the Lander County Master Plan were not completed as of the date of this document. The Community Pasture and adjacent private pasture lands are designated Agricultural. The areas around the Livestock Events Center and the sewage treatment plant are designated Governmental Industrial (Hinze 2004).

Ongoing activities of PCWCD at the Community Pasture include maintenance of the Battle Mountain collection system improvements; pasture improvements such as fencing, stock water wells, and range management; weed control; fertilization; road maintenance; and soil and moisture conservation practices (USBR 1976). PCWCD employs a full-time resident property manager to care for the property and the livestock grazed there. Currently, PCWCD allows members of the public to use the property for recreational activities, including hunting and fishing, when such activities do not directly conflict with livestock operations.

## **3.1.2. Environmental Impacts**

### **3.1.2.1. Proposed Action/Preferred Alternative**

Subsequent to the title transfer, there may be changes in land use on lands transferred to Pershing and Lander Counties and the State. These changes are not part of the federal action but would be undertaken by non-federal interests upon receipt of the land. Receiving entities could sell or commercially develop

the lands they receive under the Proposed Action. However, with the exception of parcels going to Pershing and Lander Counties, such action is unlikely. The potential development of the county parcels is discussed below. Lands transferred to PCWCD and the State of Nevada are not anticipated to be commercially developed, as this would depart significantly from these entities' basic missions (e.g., PCWCD to provide irrigation water, NDOW management of wildlife habitat, and State Parks management of recreational resources). In addition, development pressure is not driving the transfer proposal, and there are adequate privately-held lands throughout the project area to satisfy foreseeable development needs. Therefore, the transfer of lands to PCWCD or the State of Nevada is not expected to significantly affect either the pattern or the rate of growth in either Pershing or Lander Counties.

#### **3.1.2.1.1. Humboldt Sink**

The Proposed Action would transfer withdrawn Reclamation lands within the Humboldt WMA from federal ownership to the State of Nevada and Pershing County. In accordance with the Humboldt Project Conveyance Act and related agreements, the State of Nevada would receive title to approximately 31,660 acres of the Humboldt WMA, to be managed by NDOW. Because there would be no substantial change in overall resource management by NDOW, from current conditions, the title transfer would not result in adverse effects to land resources on withdrawn federal lands in the Humboldt WMA.

Pershing County would receive approximately 990 acres of withdrawn land adjacent to Derby Airfield for potential airport expansion. The transfer of these lands to Pershing County may require the county to prepare an Airport Development Plan. The transfer would permit Pershing County to control the safety zones for Derby Airfield, thereby facilitating the implementation of the Airport Development Plan. With the development of Derby Field, county planners anticipate that the site could provide additional growth to the local economy, although the current pattern of use is unlikely to be affected. The land-use designation would likely change on these parcels; however, the title transfer would not result in substantial adverse effects to land resources or use on these lands.

#### **3.1.2.1.2. Rye Patch Dam and Reservoir**

Under the Proposed Action, PCWCD would receive all acquired lands in the Rye Patch Reservoir area in addition to all withdrawn lands below the reservoir high water mark. All withdrawn lands above the reservoir high water mark would transfer to the State. State Parks will continue to operate and maintain the recreation facilities at the Rye Patch State Recreation Area.

Because there would be no substantial change in overall management of lands and waters by State Parks and PCWCD, the title transfer should not result in substantial adverse effects to land resources or use in the Rye Patch Reservoir project area.

#### **3.1.2.1.3. Battle Mountain Community Pasture**

Under the Proposed Action, PCWCD would receive title to approximately 22,500 acres of acquired lands within the Battle Mountain Community Pasture, which would continue to be managed and operated for grazing purposes. PCWCD would continue to allow permissive public use of the pasture lands, including hunting and fishing, when such activities do not directly conflict with livestock operations.

Lands to be transferred to the State may undergo a change in land use. The State of Nevada would receive title to approximately 5,850 acres of acquired land in the Community Pasture. These lands are proposed for management by NDOW for the purpose of wetland development (Hunt 2004). NDOW has a goal to restore up to 2,000 acres of wetlands and lowland riparian habitat, but specific management

plans, including water sources for recovery and vector control, have not been finalized.

If successful, it is anticipated that land use in this area would change from Agricultural to Open Space Wetlands. This change in land use is not expected to alter either the pattern or rate of growth in the Battle Mountain area. Under the Conceptual Memorandum of Agreement (MOA) between PCWCD and the State of Nevada, PCWCD may continue to graze on land transferred to the State until development of wetlands occurs (**Appendix D**). Such grazing shall be pursuant to a Grazing Plan developed by a mutually acceptable range consultant. Subsequent to wetlands development, if grazing of the wetland is deemed a viable vegetation control practice by NDOW, PCWCD shall have the first right of refusal to graze selected lands within the developed wetland.

Under the Proposed Action, Lander County would receive title to approximately 135 acres of lands underlying the Livestock Events Center and surrounding area including the Reese River Levee. In addition, Lander County would receive a metal shop building currently used by PCWCD as a maintenance shop. Because these parcels have already been developed, no impacts to land resources or use would occur as a result of the title transfer.

Under the Proposed Action, a 932-acre parcel located northwest of the unincorporated town of Battle Mountain and adjacent to the existing sewage treatment plant and the Battle Mountain Band of the Te-Moak Tribe, would transfer to Lander County. This parcel is currently zoned Industrial and may be developed as an Industrial Park in the future. In the interest of economic development, Lander County's Planning Commission and the Board of County Supervisors encourage development on Industrial zoned parcels (Lander County 1997). Transfer of this parcel from federal ownership to the county would allow Lander County to incorporate these lands in future planning decisions. Any development would be subject to applicable Lander County zoning regulations.

Under the Proposed Action, Lander County would receive title to two parcels located approximately 1.5 miles north of the unincorporated town of Battle Mountain. The parcel is located on the west (left) bank of the Humboldt River, near White Bridge on Nevada State Route 806. Lander County proposes to develop a low-maintenance public recreation area on approximately 30 acres on the east side of the highway. A 1-acre parking area is proposed to be developed on the west side of the highway, across from the public recreation area. In addition, PCWCD would grant Lander County a permanent easement to a strip of land along either side of the center line of the Humboldt River. The access easement would be limited only to that width necessary to create a 5-foot-wide strip of dry land immediately adjacent to the river on each bank under non-flood conditions. The access easement will be provided solely for the purpose of providing members of the public with pedestrian access along the river extending downstream from the parking area at White Bridge about 4 miles to the western border of the Community Pasture lands.

The MOA provides that the access easement be maintained in its natural state and allow access to the river for recreational users. No motorized vehicles or horses would be permitted. Pets would be required to be kept on a leash at all times. No overnight facilities or uses would be allowed in the parking area or along the access easement. The county would maintain the easement and would patrol it to make sure it stays clear of litter. The easement would provide an official dedication of an area unofficially used by hunters, anglers, and other recreational users to access the Humboldt River with PCWCD permission, and establishes Lander County as the official party responsible for managing the easement. Under the agreement, PCWCD may continue to graze livestock on Community Pasture lands within the easement. Potential impacts to land resources could be offset by improved management by the county, including controlled access gates and signage and regular patrols.

### **3.1.2.2. No Action Alternative**

Under the No Action Alternative, land resources and use would not change. The title transfer would not occur, and the lands and associated water rights and improvements would continue to be held by the United States. The lands would continue to be administered for Reclamation by PCWCD and the State of Nevada according to the purposes for which the project was authorized. NDOW and State Parks could continue to operate lands and features within the Humboldt Project pursuant to agreements and contracts.

Transfer of lands to the State of Nevada for wetlands development in the Battle Mountain Community Pasture would not occur. Transfer of the lands adjacent to the sewage treatment plant for industrial development and recreational enhancements by Lander County, including the development of a primitive day-use area and parking area adjacent to the Humboldt River, a dedicated easement along the river, and the expansion of the Livestock Events Center would not occur. Project lands within the Humboldt Sink and in the Rye Patch area would not be transferred to the State. Pershing County would not receive adjacent parcels for expansion of the Derby Field.

If the title transfer were not to occur, Reclamation may choose to prepare an RMP to guide future land resources decisions for project lands. The planning life of an RMP is typically 10 years, and its preparation and implementation is subject to Congressional funding.

## **3.2. WATER RESOURCES**

### **3.2.1. Affected Environment**

#### **3.2.1.1. Climate and Precipitation**

Climate and climate variability play a significant role on the water resources in the project area. Precipitation supplies all of the water that flows in the Humboldt River Basin. Snowpack in the upper reaches of the Humboldt River, and to some extent rainfall, influences seasonal flows and runoff. The majority of the precipitation occurs during the winter months, typically between November and March. Precipitation normally occurs in the form of rain at the lower elevations and snow in the upper elevations (NDWP 2004a). Within the project area, and depending on topography, average precipitation can vary yearly from as little as 4 to 6 inches on the valley floors to more than 25 inches in the nearby mountains (WRCC 2004). This climatic variation has greatly influenced agricultural and water development in the project area.

#### **3.2.1.2. Surface Water**

The Humboldt River Basin is the second largest water basin in the state and covers an estimated 16,840 square miles, entirely within the State of Nevada (Berger 2000b). The basin provides the second highest annual water yield in the state, with approximately 463,900 acre-feet of water per year (NDWP 2004b). This represents about 22.1 percent of the surface water resources available within the State.

Project lands are located in the Lower Humboldt River Basin, a geographic feature based on delineation of the river below the Palisade gauging station. The lower Humboldt River Basin covers approximately 11,800 square miles, and contains 70 percent of the Humboldt River Basin's total surface area (NDWP 2004b). Information regarding the Humboldt River sub-basins is provided in **Table 3.2-1**.

TABLE 3.2-1 HUMBOLDT RIVER SUB-BASINS				
Sub-basin <sup>1</sup>	Surface Area (acres)	Surface Area (sq. mi.)	Percent of Total Basin	County
<b>Upper Humboldt River Basin</b>				
Mary's River Sub-Basin	686,720	1,073	6.4%	Elko
Ruby Mountain Sub-Basin	1,194,880	1,867	11.1%	Elko, White Pine
North Fork Sub-Basin	710,400	1,110	6.6%	Elko
Maggie Creek Sub-Basin	396,160	619	3.7%	Elko, Eureka
Elko Reach Sub-Basin	240,000	375	2.2%	Elko, Eureka, Lander
<b>Lower Humboldt River Basin</b>				
Pine Valley Sub-Basin	641,280	1,002	6.0%	Elko, Eureka
Reese River Sub-Basin	2,320,000	3,625	21.5%	Eureka, Nye, Lander
Battle Mountain Sub-Basin <sup>2</sup>	1,605,120	2,508	14.9%	Elko, Eureka, Lander, Humboldt
Little Humboldt River Sub-Basin	1,114,880	1,742	10.3%	Humboldt, Elko
Sonoma Reach Sub-Basin	802,560	1,254	7.4%	Humboldt, Pershing
Lovelock Reach Sub-Basin <sup>2</sup>	1,067,520	1,668	9.9%	Pershing, Churchill
TOTAL	10,779,520	16,843		
Source: Nevada Division of Water Planning 2004b				
<sup>1</sup> Areas are listed from the headwaters of the Humboldt River toward the Humboldt Sink				
<sup>2</sup> Shaded hydrographic areas are in or within the general vicinity of the study area				

Unlike many federal Reclamation projects, the Humboldt Project water distribution and drainage facilities are not part of the project facilities. Because the Lovelock Valley lands were under irrigation prior to the construction of the Humboldt Project, the necessary distribution and drainage facilities were largely in place in 1935 when Rye Patch Reservoir was constructed.

The water distribution and drainage facilities within the PCWCD boundaries were initially built by six different principal canal companies. Those companies continued to hold title to the facilities and assess their users until the valley's irrigators unified under the District's ownership and administration. PCWCD acquired title to the canal companies in the 1970s.

The distribution system today consists of a network of carrier and drainage canals. All operation and maintenance on the distribution and drainage systems is performed by the PCWCD. The water distribution and drainage facilities within the PCWCD boundaries are not included in the proposed title transfer.

The Humboldt Sink is an area of approximately 37,140 acres at the terminus of the Humboldt River. The area is fed by both natural flow of the Humboldt River and the drain system carrying tailwater from the irrigated lands of the PCWCD. In extremely wet years, the Humboldt Sink discharges to the Carson Sink via the Humboldt Slough. Principal features include Toulon Lake on the west side and the larger Humboldt Lake on the east side. Toulon Lake is fed by the Toulon Drain. The Humboldt Lake is fed by the Army Drain at the north end and the main stem of the Humboldt River, which empties into Lower Humboldt Lake and the southeast corner of Upper Humboldt Lake (Bull and Richards 2003).

Rye Patch Reservoir has a capacity of approximately 213,000 acre-feet. The overall drainage area into the reservoir is approximately 15,700 square miles (NDWP 2004b). Annual flows to the reservoir have ranged from a minimum of 21,170 acre-feet in 1955 to a maximum of 1,455,000 acre-feet in 1984. The overall average flow from the Humboldt River into the reservoir is approximately 184,700 acre-feet (period of record from 1936 to 1998). The outlet works can release water at a rate of up to 1,000 cubic feet per second (cfs) and the spillway can discharge up to 24,000 cfs (USBR 1976).



There are two other storage reservoirs owned by PCWCD near the northern portion of the Rye Patch Reservoir. The Lower Pitt-Taylor Reservoir has a surface area of 2,570 acres and a storage capacity of 15,000 acre-feet, while the Upper Pitt-Taylor Reservoir has a surface area of 2,070 acres and a storage capacity of 20,000 acre-feet. These reservoirs were used to store irrigation water prior to construction of the Rye Patch Dam in 1935. Presently, water is only diverted from the Humboldt River into the Pitt-Taylor Reservoirs for PCWCD storage and supplemental water delivery to PCWCD patrons when Rye Patch Reservoir is full or cannot be filled because of anticipated maintenance (USBR 1995b). The Pitt-Taylor canal also has a turnout that can return the diverted water to the river.

In the Battle Mountain area, the Reese River and Rock Creek are the primary tributaries of the Humboldt River. Willow and Boulder Creeks are tributaries to Rock Creek. The Upper Slaven Diversion Dam is located near the eastern boundary of lands to be transferred, and is used to divert irrigation water for private land north and east of the Battle Mountain Community Pasture. This dam was constructed in 1958, and is 18 feet high and 88 feet wide. However, the hydraulic height is only 8 feet. There is an unnamed canal east of the Community Pasture that was constructed as a part of the Battle Mountain Water Development and Collection Project (USBR 1995b). Historical meandering channels associated with the Humboldt River on and near project lands within the Community Pasture only carry water in extremely wet years.

### **3.2.1.3. Groundwater**

According to the Nevada Division of Water Planning (NDWP), groundwater in Nevada provides nearly 40 percent of the total water usage in the State (NDWP 2004a). In many areas of Nevada, groundwater is the sole water supply. In other areas of the State, groundwater is pumped to supplement surface water sources, especially in agricultural areas. The extent to which groundwater is used may vary considerably from year to year, depending on rainfall, snowmelt, and drought conditions (Plume & Ponce 1999). Although groundwater is used extensively for agriculture, currently 28 percent of groundwater demands in the State of Nevada are for local M&I use (NDWP 2004d). M&I groundwater use is expected to increase as the population grows within certain portions of the State.

Perennial yield is the amount of usable water from a groundwater aquifer that can be withdrawn each year for an indefinite period of time without depleting the source. According to the Nevada State Engineer and the United States Geological Survey (USGS), the statewide perennial groundwater yield is approximately 2.1 million acre-feet per year (NDWP 2004d; Plume 1999). The total perennial groundwater yield for the Humboldt River Basin is estimated at 842,312 acre-feet annually (NDWP 2004e). The largest single source of groundwater pumping in the Humboldt River Basin is mining (Plume 1999).

An estimated 176,000 acre-feet of groundwater were used in Lander County in 1990 (NDWP 2004e). Approximately 1,100 acre-feet were used for domestic and public water supplies, 156,000 acre-feet for agriculture, and the remaining 18,600 acre-feet were used for self-supplied industrial, commercial, or mining purposes. Pershing County reported an estimated 219,000 acre-feet of groundwater use in 1990 (NDWP 2004e). Approximately 1,400 acre-feet were used for public and domestic supply, 216,500 acre-feet for agriculture and the remaining 1,700 acre-feet were used for self-supplied industrial, commercial, or mining uses. Groundwater was not developed for use on project lands as part of the Project. Agricultural and self-supplied industrial, commercial, or mining represent the highest usage in both counties. (NDWP 2004d).

Groundwater depths range from 10 to 30 feet below ground surface (bgs) in the Humboldt Sink area. Groundwater depth varies according to seasonal precipitation and irrigation runoff. There are no groundwater wells on lands to be transferred in the Humboldt Sink area.

Groundwater levels in the Rye Patch area range from 50 feet bgs, to very near the ground surface at the river and the reservoir's edge. Regional groundwater flow in the valley is toward the Humboldt River but locally varies around the edge of the Rye Patch Reservoir and below the dam depending on the elevation of the water in the reservoir (Tetra Tech 2004). There are two groundwater wells for potable use at Rye Patch Reservoir. One is located on lands owned by PCWCD, and is used for the park office, ranger station, ranger's residence, and the PCWCD Dam Tender's residence. The other is located on lands to be transferred, west of the dam. It is used to provide potable water to the group-use area, trailer dump station, the River Campground and all Westside facilities. Five groundwater monitoring wells are located on top of the dam and five groundwater monitoring wells are located below the dam to assess the subterranean flow of water beneath the dam (Tetra Tech 2004).

There are seven wells located on lands to be transferred in the Community Pasture. The depth to groundwater at these wells is generally from 10 to 15 feet bgs. The wells are used primarily for livestock watering. None of the wells located in the Community Pasture are used to irrigate pasture lands.

### 3.2.2. Water Use

#### 3.2.2.1. Irrigation

During years with average to above-average precipitation, PCWCD provides on-demand flood irrigation water for up to 37,506 acres (Hodges 2004). During periods of drought or short water years, PCWCD operates on a strict rotational basis. Irrigation water is delivered from releases at the Rye Patch Reservoir through the Humboldt River, main canals, and laterals to water-righted lands in the Lovelock Valley within PCWCD's boundaries. The length of the irrigation season and allowable water rights based on land classification are regulated under the Bartlett Decree. The decree provides for a continuous rate of flow in the Lower Humboldt River Basin of 0.81 cfs for each 100 acres, or proportional amounts thereto, for water-righted land below Palisade (Hennen 1964a). There are three different classes of lands under the decree. They include harvest crop, meadow pasture, and diversified pasture. Each of these classes is subject to specific water duties (Horton 2000). **Table 3.3-2** shows the land classes and types, water rights, and the number of days and dates of irrigation.

TABLE 3.2-2 HUMBOLDT RIVER WATER RIGHTS BELOW PALISADE (FLOW RATE – 0.81 CFS)				
Class and Type of Land		Water Right (acre-foot/acre)	Irrigation Days	Dates of Irrigation
Class A	Harvest Crop	3.0	180	March 15 – September 15
Class B	Meadow Pasture	1.5	90	March 15 – June 13
Class C	Diversified Pasture	0.75	90	March 15 – June 13
Source: Horton 2000				

Water apportionment to Lovelock Valley farmers is based on the Bartlett Decree. Pursuant to the decree, all water-righted acreage within PCWCD boundaries receives the same water delivery allotment by PCWCD for any given year. Under the Bartlett Decree, water diverted for irrigation must be measured where the main ditch enters or becomes adjacent to the land to be irrigated (Hennen 1964a). In addition, PCWCD water delivery regulations do not allow for use of project water outside of the district boundary. There are no M&I water rights in the District. Water rights and other legal documents associated with the Humboldt Project are described in **Section 3.2.4**.

The number of acres irrigated within the project area has varied from 1983 to 1992, primarily because of the variability of the available water supply. To provide reliable irrigation to PCWCD farmers, the Rye

Patch Reservoir must have carryover storage from the previous year. Because the reservoir is located at the end of the Humboldt River drainage, it takes approximately 30 days for the spring runoff to reach the reservoir. Historically, the peak spring runoff begins in late May or early June. Consequently, early season irrigation demands depend primarily on carryover storage at Rye Patch Reservoir from the previous year. The historic average minimum operational carryover pool is 74,370 acre-feet, and the median carryover pool is 53,178 acre-feet over 68 years of record (Hodges 2004). Over this period of record, the minimum carryover pool was 10,000 acre-feet or greater 80 percent of the time (Hodges 2004).

Alfalfa (hay and seed), and a small amount of wheat and oats are grown in the Lovelock Valley. Table 3.2-3 shows the changes in irrigated land over time as well as the crop value for the project area.

<b>Year</b>	<b>Actual Irrigated (Acres)</b>	<b>Crop Value (Dollars)</b>
1983	31,001	9,956,064
1984	27,391	9,937,664
1985	33,775	11,324,810
1986	33,900	12,378,999
1987	32,800	12,777,372
1988	32,120	14,803,178
1989	37,120	17,827,300
1990	27,622	10,133,468
1991	27,652	11,851,116
1992	24,424	12,494,315

Source: Horton 2000

Within Pershing County, only PCWCD and two users upstream have surface water rights for irrigation diversions from the Humboldt River. Other irrigators in the area rely on groundwater or flash stream flows from mountain front drainage. Flash streams are defined as “streams that have a sudden or flash flow or flush flow for a comparatively brief period of time, while such stream is draining the particular basin or source of supply fed by melting snows” (Horton 2000). These water diversion rights, including flash or flush stream flows, are governed by the Nevada State Engineers Office. There are no groundwater or surface water rights for irrigation on the Battle Mountain Community Pasture. Lander County irrigators outside of project lands rely on surface and groundwater rights. The adjacent F-S Ranch, owned by the Newmont Mining Company, is providing treated water from their nearby mining operations to irrigate their pasture lands (Hodges 2004, Tetra Tech 2004).

### **3.2.2.2. Municipal and Industrial**

The main domestic water supplier in Pershing County is the Lovelock Meadows Water District. According to NDWP estimates, approximately 75 percent of the water deliveries by this agency are for residential use (NDWP 2004c). Domestic water in the Battle Mountain area is supplied primarily by three groundwater wells operated and maintained by the Battle Mountain Sewer and Water Department (Snap 2004).

There are no major industrial water users in the general area. Water withdrawals for thermoelectric power generation in Lander and Pershing Counties are minimal. Most of the electric power for these counties is supplied from outside sources (e.g., the Valmy 522 megawatt Plant in Humboldt County) or by diesel-powered generators.

### 3.2.2.3. Mining

The largest single source of groundwater pumping in the Humboldt River Basin is mining (Plume 1999). There are several mining operations, including open pit mines, in Pershing and Lander Counties. However, there are no active mining operations on project lands. Several of these open-pit mines have dewatered mine pits to facilitate mining below the water table. In 2001, these mining operations were permitted by the Nevada State Engineer to collectively discharge 313,000 acre-feet per year (NDWP 2004d). Excess water from mine dewatering is reinjected into nearby aquifers or infiltrates to underlying aquifers from storage reservoirs (BIM 2002). Other mines are investigating dewatering activities, which could increase effects to the Humboldt River system, including incidental effects on the flows of nearby springs, streams, or other surface water bodies (Horton 2000).

The State of Nevada has recognized the potential effects these mining operations may have on the region's hydrologic conditions, and has established a mitigation process of preferred uses for the pumped groundwater from these operations (Horton 2000). The State Engineer has mandated that groundwater pumped in excess of ore processing requirements be reinjected. If reinjection is not possible, the water must be stored in surface infiltration ponds. A third option allows the mine to substitute the pumped groundwater for existing permitted beneficial uses of groundwater (e.g., irrigation, power plant cooling, etc.). As a last resort, the State Engineer will permit discharge to existing streams, some of which may drain into the Humboldt River (Horton 2000).

The long-term effects of mine dewatering operations are not well known. State and federal agencies, in cooperation with the mining industry, are currently evaluating the impacts of these actions on the Humboldt River water budget (Plume 2003, Horton 2000).

Projected withdrawal of water for mining in Pershing and Lander Counties is difficult to predict because of the volatile nature of future demands and price of minerals. For example, gold and silver mining and processing account for more than 70 percent of the mining operations in Nevada (NDWP 2004d). Any changes in the production or market value worldwide would affect mining operations and resulting water use.

### 3.2.3. Water Quality

Sources of contaminants in the Humboldt River include naturally-occurring organics; mining operations; municipal wastewater effluent; and agricultural activities, including irrigation drainage and livestock grazing. The Nevada Division of Environmental Protection (NDEP) and the State Environmental Commission regulate discharges to Nevada's surface waters to maintain healthy drinking water sources and for the protection of the environment and the wildlife. Within the project area, discharges to the Humboldt River include point source and non-point source discharges.

A point source is a discharge from an identifiable point (e.g. pipe, pond, culvert, or drain) into a water body. Generally, point sources are regulated through National Pollution Discharge Elimination System (NPDES) permits, unless the discharge is directly to a second-party-NPDES-permitted system. NPDES permits address the treatment requirements and effluent quality levels. Within the Humboldt Sink area, the Toulon Drain receives agricultural drainage and treated effluent from the Lovelock Sewage Treatment Plant, and the Army Drain receives primarily agricultural drainage (Paul and Gustin 2002a, 2002b). Agricultural drainage is excluded from NPDES permitting requirements.

A non-point source is a diffuse source, such as runoff from a large area of land. Chemical constituents

from these sources are often the result of natural background sources. However, non-point source pollution can result from urban stormwater runoff, leaking septic tanks, agriculture (e.g., irrigation and grazing of livestock), and erosion from disturbed areas (e.g., highway construction, mining, or off-road vehicles). Some of these discharges (e.g., construction, open-pit mining, and urban stormwater runoff) can be controlled through the implementation of Best Management Practices during the federal and state permitting process for the operation.

No physical sampling or analysis of any media was conducted for this EIS. Representative water quality data for selected USGS gaging stations near project lands is included in **Table 3.2-4**. Pershing Station-10333000 is north of the Rye Patch Reservoir, and the Pershing Station-10335000 is below the Rye Patch Dam. Lander Station-10325000 is south of the Battle Mountain Community Pasture. Elko Station-10321000 is north of the Battle Mountain Community Pasture. These stations were used to evaluate the overall water quality in the general project areas and to provide any indicators regarding project impacts to the Humboldt River.

**TABLE 3.2-4 WATER QUALITY OF THE HUMBOLDT RIVER**

Chemical Parameter**	Units***	County, Gaging Station Number and Sampling Period*			
		Pershing 10335000	Pershing 10333000	Lander 10325000	Elko 10321000
		1951 – 1999	1954 – 1999	1977 – 1998	1965 1998
Turbidity	NTU	0.70 48	NA	3.1 88	2.6 200
Color	PCU	4 30	NA	NA	5
Specific Conductance	µs/cm	384 2,550	377 940	349 1,210	298 630
Dissolved Oxygen	mg/l	7.4 13.0	6.6 12.0	6.2 12.6	7.6 12.2
pH	Standard Units	7.6 9.3	8.2 8.7	8.1 8.7	7.6 8.9
Carbonate	mg/l	2 30	2 10	3 14	2 57
Bicarbonate	mg/l	210 307	170 307	167 255	81 324
Total Nitrogen	mg/l	0.24 1.1	NA	NA	0.36 1.2
Organic Nitrogen	mg/l	0.16 1.1	NA	NA	0.30 1.2
Ammonia as Nitrogen	mg/l	0.01 0.20	0.01 0.08	0.01 0.15	0.01 0.20
Nitrite as Nitrogen	mg/l	0.01 0.200	0.01 0.170	0.01 0.054	0.01 0.010
Nitrate as Nitrogen	mg/l	0.01 0.32	NA	NA	0.02 0.16
Phosphorus	mg/l	0.01 0.20	0.01 0.49	NA	0.01 0.42
Hardness as Calcium Carbonate	mg/l	87 410	NA	NA	100 210
Calcium	mg/l	18.0 110	37.2 53.0	35.7 58.0	27.0 63.0
Magnesium	mg/l	7.8 41.0	11.7 25.0	7.9 18.0	5.8 17.0
Sodium	mg/l	35.0 445	65.2 120	25.0 81.0	20.0 61.0
Sodium	SAR	2 10	NA	NA	0.8 2
Potassium	mg/l	2.3 42.0	8.20 13.1	4.6 14.2	3.8 13.0
Chloride	mg/l	14.0 664	26.4 82.0	7.7 86.0	6.9 40.0
Sulfate	mg/l	40.0 183	36.6 110	19.0 110	11.0 60.0
Fluoride	mg/l	0.4 1.2	0.6 1.3	0.1 0.7	0.1 1.3
Silica	mg/l	20.0 60.0	20.0 39.0	20.7 31.0	15.0 40.0
Arsenic	µg/l	23 35	13 23	5 11	3 12
Barium	µg/l	30 45	52 86	61 110	47 120
Beryllium	µg/l	1.0	1.0	1.0	1.0
Boron	µg/l	480 610	300 650	NA	NA
Cadmium	µg/l	1.0	1.0	1.00 2.0	1.0
Chromium	µg/l	1.0 6.0	1.0 3.0	1.0 7.0	1.0
Cobalt	µg/l	1.0	1.0	3.0	3.0
Copper	µg/l	1.6 8.0	1.0 3.1	1.0 6.0	1.0 8.0

**TABLE 3.2-4 WATER QUALITY OF THE HUMBOLDT RIVER**

Chemical Parameter**	Units***	County, Gaging Station Number and Sampling Period*			
		Pershing 10335000	Pershing 10333000	Lander 10325000	Elko 10321000
		1951 – 1999	1954 – 1999	1977 – 1998	1965 – 1998
Iron	µg/l	10 – 30	10	3 – 40	3 – 130
Lead	µg/l	1.0	1.0	1.0	1.00 – 10
Manganese	µg/l	1.0 – 23	1.0 – 6.8	2.0 – 19	2.0 – 160
Molybdenum	µg/l	10 – 31.3	10 – 115	10 – 20.0	10 – 14.0
Nickel	µg/l	1.14 – 3.16	1.00 – 2.11	1.00 – 3.00	1.00 – 6.00
Silver	µg/l	1.0	1.0	1.0	1.0 – 1.0
Strontium	µg/l	340 – 490	NA	230 – 460	210 – 590
Vanadium	µg/l	10 – 14	5 – 11	6 – 10	6 – 7
Zinc	µg/l	1 – 25	1 – 3	3 – 52	3 – 28
Antimony	µg/l	1.66 – 3.62	1.02 – 10.7	NA	1.00
Aluminum	µg/l	1 – 30	1 – 6	10 – 50	10 – 180
Lithium	µg/l	NA	NA	19 – 180	13 – 63
Selenium	µg/l	1 – 2	1 – 1	1 – 1	1
Uranium (natural)	µg/l	4.43 – 6.43	2.66 – 8.00	NA	4.00
Fecal Coliform	Colonies per 100 ml	0 – 13	NA	NA	NA
Bromide	mg/l	0.1 – 0.60	NA	NA	NA
Mercury	mg/l	0.1	0.1	0.1	0.1 – 0.4
Suspended Solids	mg/l	9 – 136	9 – 2,000	26	9 – 2,440

NA = Not Available

\* The values given are the minimum and maximum measured values of all sampling periods.

\*\* Data for measuring metals and other parameters in the µs/cm level used only data after 1985 because of general technology improvements in detection limits and accuracy.

\*\*\* Units:

NPU = Nephelometric Turbidity Units

PCU = Platinum Cobalt Units

µs/cm = microsiemens per centimeter @ 25 °C

mg/l = milligrams per liter

SAR = Sodium Adsorption Ratio

µg/l = micrograms per liter

ng/l = nanograms per liter

Source: U.S. Geological Survey (2004)

Agricultural-related activities can increase soil erosion (e.g., turbidity and suspended solids) and nutrient loading (e.g., nitrogen, nitrate, nitrite, potassium, and phosphorus) from animal waste or fertilizer application in local water bodies. Additionally, runoff from agricultural land can result in pesticides and herbicides discharges. However, analytical results shown in **Table 3.2-4** do not indicate excessive soil or nutrient loading in the Humboldt River attributable to project activities. Existing sources of suspended solids, nutrients, and turbidity loading in these areas is likely a result of background sources and natural activities associated with the terrain, desert type environment, and climate of the region.

As a condition of their NPDES permits, entities that discharge to the Humboldt River are required to monitor quantity and quality of effluent. Data is reported quarterly to the NDEP. Surface water quantity and quality, including dissolved solids and certain trace elements, are routinely monitored by the USGS and NDEP (USBR 2001).

### 3.2.3.1. Compliance with Drinking Water Standards

As shown in **Table 3.2-5**, the Humboldt River is in compliance with federal and State of Nevada primary and secondary drinking water standards, except for arsenic, manganese, aluminum, and pH. None of the

results are associated with the general project area.

TABLE 3.2-5 COMPLIANCE WITH FEDERAL AND STATE DRINKING WATER STANDARDS FROM 1985 TO PRESENT *								
Parameter**	Pershing (10335000)		Pershing (10333000)		Lander (10325000)		Elko (10321000)	
	Samples Number	Over Federal & State MCL	Samples Number	Over Federal & State MCL	Samples Number	Over Federal & State MCL	Samples Number	Over Federal & State MCL
Aluminum	18	<b>1</b>	13	0	29	<b>2</b>	40	<b>8</b>
Antimony	12	0	13	0	NA	NA	1	0
Arsenic	19	<b>19</b>	13	<b>13</b>	26	<b>4</b>	39	<b>5</b>
Barium	17	0	13	0	NA	NA	54	0
Beryllium	17	0	13	0	26	0	39	0
Cadmium	18	0	13	0	26	0	39	0
Chromium	19	0	13	0	26	0	39	0
Copper	19	0	13	0	26	0	39	0
Iron	18	0	13	0	30	0	57	0
Lead	19	0	13	0	26	0	40	0
Manganese	17	0	12	0	30	0	56	<b>2</b>
Mercury	7	0	6	0	22	0	24	0
Selenium	18	0	15	0	30	0	40	0
Silver	18	0	13	0	30	0	58	0
Zinc	18	0	15	0	26	0	24	0
Fluoride	25	0	12	0	30	0	73	0
Nitrate as Nitrogen	0	NA	NA	NA	NA	NA	2	0
Nitrite as Nitrogen	19	0	15	0	30	0	64	0
pH	25	<b>16</b>	15	<b>2</b>	28	<b>6</b>	76	<b>24</b>
Sulfate	25	0	12	0	30	0	73	0
Chloride	25	0	12	0	30	0	73	0
Source U.S. Geological Survey 2004								
* Highlighted numbers indicate number of reading not in compliance with federal or State of Nevada regulations								
** All units are mg/L, except for pH (standard units) and turbidity (N)								
NA = Not Available								

- **Elko (10321000)** – Exceeds water quality standards in eight of 40 samples for aluminum, five of 39 samples for arsenic, two of 56 samples for manganese, and 24 of 76 samples for pH.
- **Lander (10325000)** – Exceeds water quality standards in two of 29 samples for aluminum, four of 26 samples for arsenic, and six of 28 samples for pH.
- **Pershing (10333000)** – Exceeds water quality standards in 13 of 13 samples for arsenic and two of 15 samples for pH.
- **Pershing (10335000)** – Exceeds water quality standards in one of 18 samples for aluminum, 19 of 19 samples for arsenic, and 16 of 25 samples for pH.

### 3.2.4. Water Rights

Nevada water law provides that water within the boundaries of the State belongs to the public. However, the right to use the water may be acquired by individuals through diversion and beneficial use. Nevada has adopted the prior appropriations doctrine that is based on the concept of “first in time, first in right.” The doctrine provides that the first person to divert water and put it to beneficial use has a higher priority

right to use that source of water than subsequent appropriators. This means that when the quantity of available water is not sufficient to meet the needs of all those having water rights for particular source of water, the needs of those with an earliest priority will be met first. In addition, water rights are considered real property and thus are conveyed by deed. They can be sold or transferred apart from the land.

Nevada water law is set forth in Nevada Revised Statutes (NRS) in Chapters 533 and 534, regulations promulgated for administration of the statutes, and case law. Generally, the State Engineer is the water rights administrator and is responsible for the appropriation, adjudication, distribution, and management of water in the State. Where a river has been adjudicated, such as the Humboldt River, the decree court also has continuing jurisdiction over administration of water rights under that decree.

PCWCD provides water delivery to its patrons. The water rights serving the Lovelock Valley lands include water rights held in the name of individual farmers, PCWCD, and the United States. Despite this varied ownership of the water rights, PCWCD determines the annual delivery allotment and distribution of seasonally available water within the parameters provided by the water rights.

Water use within the Humboldt Project is through both direct-flow and storage rights. The direct-flow rights existed by virtue of the ditch companies predating PCWCD formation and the project as well as by transfer to farmers' lands within PCWCD from the ranch lands in the Battle Mountain and Valmy areas acquired in the 1930s as part of the creation of the Humboldt Project. The rights include a total duty of 49,667.44 acre-feet. The transferred rights are held in the name of the United States. Rye Patch Reservoir storage rights held by the United States include 115,152.32 acre-feet. PCWCD holds additional storage rights in its name for the Big Five Reservoir and Pitt Taylor Reservoirs for 54,570.00 acre-feet. These rights are summarized in **Tables 3.2-6 through 3.2-8**.

**TABLE 3.2-6 WATER RIGHTS TABLE – DIRECT DIVERSION RIGHTS**

Application Numbers	Certificate Number	Date Approved	Acre-feet	CFS	Priority Date	PCWCD Predecessor in Title
9729, 12955	5041	11 9 60	15,434.95	78.063	1873 1893	Ulippin
9730, 12953	4436	4 23 56	4,154.08	20.068	1871 1914	Aldous
9731, 12954	4437	4 23 56	4,579.42	30.572	1873 1877	Taylor
9732, 12952	4572	7 3 57	14,432.32	91.494	1873 1887	Ellison
9733, 12951	4435	4 23 56	1,282.01	6.342	1873 1894	Silve
9734, 12950	4571	7/3 57	3,023.49	9.911	1874	Hammond
9735, 12949	4570	7 3 57	2,626.30	13.509	1874 1887	Bain
9821, 12948	4434	4 23 56	1,925.52	13.615	1863 1866	Callahan
9928, 12947	5040	11 9 60	562.17	3.610	1873 1880	Russell Land & Cattle Co.
10065, 12957	5180	8 14 61	1,647.18	9.385	1877	John G. Taylor, Inc.
<b>Total</b>			<b>49,667.44</b>	<b>276.569</b>		

**TABLE 3.2-7 WATER RIGHTS TABLE – STORAGE RIGHTS FOR RYE PATCH RESERVOIR**

Reservoir	Application Numbers	Certificate Number	Date Approved	Acre-feet	CFS	Priority Date
Rye Patch	9716, 12956	4506	4 3 57	100,000.00	5,000.0	12 12 33
Rye Patch	10283	9258	8 30 78	15,152.32	5,000.0	8 13 38
<b>Total</b>				<b>115,152.32</b>	<b>10,000.0</b>	



**TABLE 3.2-8 WATER RIGHTS TABLE – PERSHING COUNTY WATER CONSERVATION DISTRICT STORAGE RIGHTS**

Reservoir	Application Numbers	Certificate Number	Date Approved	Acre-feet	CFS	Priority Date
Big Five <sup>1</sup>	Bartlett	Decree	10/20/31	400.00		1900
Big Five*	Bartlett	Decree	10/20/31	4,400.00		1922
Pitt Taylor	1098	2130	9/18/35	20,200.00	300.00	8/21/08
Pitt Taylor	1948	2131	9/18/35	29,570.00	450.00	2/10/11
<b>Total</b>				<b>54,570.00</b>	<b>750.00</b>	

The Big Five storage rights have been transferred to Rye Patch Reservoir.

In addition to the rights held by the PCWCD, the United States, and privately by members of PCWCD, the State of Nevada holds rights to divert water from the Toulon and Army Drains to the Humboldt Sink WMA. The State of Nevada is also a patron of PCWCD and uses water delivered by PCWCD. Table 3.2-9 lists the certificates and amounts held by the State of Nevada on behalf of NDOW.

TABLE 3.2-9 WATER RIGHTS TABLE – NEVADA DIVISION OF WILDLIFE					
Application Numbers	Certificate Number	Date Approved	Acre-feet	CFS	Priority Date
	9740	1/27/82	10,200	100	1972
	9741	1/27/82	21,573	2,000	1972
	9742	1/27/82	21,573	200	1972
<b>Total</b>			<b>31,773*</b>	<b>2,300</b>	

Although individual certificates provide greater diversion per State Engineer's Ruling, combined total for the three permits is 31,773 acre-feet annually.

### 3.2.5. Environmental Impacts

#### 3.2.5.1. Proposed Action/Preferred Alternative

##### 3.2.5.1.1. Surface Water

Under the Proposed Action, PCWCD has agreed to maintain a minimum operational pool of 3,000 acre-feet in Rye Patch Reservoir to sustain the fishery. PCWCD would cease all releases from Rye Patch when the reservoir reaches a minimum of 3,000 acre-feet of storage. With the exception of the proposed minimum pool operational criteria, impacts to surface water on other project lands will not change. Under both the Proposed Action and No-Action Alternatives, PCWCD will continue to operate and maintain project features to deliver water to patrons in their jurisdiction. Discharge of return flows from agricultural tailwater will continue via the Army and Toulon Drains to the Humboldt Sink.

Under the Proposed Action, the State of Nevada would receive title to approximately 5,850 acres of land in the Community Pasture for purposes of creating a wetland. PCWCD constituents would continue to graze livestock on these lands until wetland development begins. NDOW's goal is to restore up to 2,000 acres of marsh habitat, but specific management plans including water sources, funding, and vector control have not been finalized.

##### 3.2.5.1.2. Groundwater

Under the Proposed Action, impacts to groundwater in the Humboldt Sink and Rye Patch Reservoir

would be the same as those under the No Action Alternative. Lands proposed to be transferred to Lander County for industrial development, may require the use of groundwater. The Battle Mountain Water and Sewer Department would be responsible to supply any additional M&I water to lands acquired for such purposes. At this time, the Battle Mountain Water and Sewer Department does not anticipate restrictions on acquiring water supplies for additional M&I use (Snap 2004). The Battle Mountain Sewage Treatment Plant may be a source for effluent water reuse for future landscaping and some industrial processes, thereby reducing the amount of groundwater pumped.

#### **3.2.5.1.3. Water Quality**

Under the Proposed Action, impacts to water quality would be the same as those under the No Action Alternative. Any existing or future water quality impacts attributable to specific sources would be the responsibility of the owner or contributor of that source of water pollution, whether from federal, state, or private entities. As a result, no adverse impact to existing water quality is expected.

Proposed sanitary facilities associated with expansion of Rye Patch State Recreation Area and the Humboldt WMA would occur under both the Proposed Action and No Action Alternatives. Sanitary facilities expansion may involve the construction of either permanent restrooms using septic and leach field systems or temporary portable toilets. Construction of septic and leach field systems would be governed by the State of Nevada and local public health regulations. Disposal of portable toilet waste would be conducted in accordance with state and local public health regulations at wastewater treatment plants or other approved locations.

Proposed expansion of the Battle Mountain wastewater treatment plant or for the construction of an industrial park would be subject to state regulations and NPDES permitting. Direct use of the Humboldt River water is not anticipated, and could only be undertaken by obtaining additional water rights from the State Engineer. During the application process, the State Engineer would be responsible for assuring that the use of the Humboldt River would not impact current hydrology or water quality requirements set forth in state law. Therefore, impacts associated with the expansion of the wastewater treatment plant or construction and operation of the industrial park are not expected.

#### **3.2.5.1.4. Water Rights**

Under the Proposed Action, the nine direct-flow rights and two storage rights in the name of the United States would be conveyed to PCWCD for its patrons by a Report of Conveyance application to the State Engineer's Office. PCWCD would continue to manage water delivery to its patrons, as it has been doing since its inception as a water district. Impacts associated with the conveyance would be the same as those under the No Action Alternative.

Under the Proposed Action, the State of Nevada would receive title to approximately 5,850 acres of land in the Community Pasture. These lands are proposed for management by NDOW for the purpose of wetland development (Hunt 2004). PCWCD constituents would continue to graze livestock on these lands until wetlands development begins. Because there are presently no water rights on lands to be transferred in the Community Pasture, wetland development would depend on the acquisition of water rights by the State of Nevada. Under the Proposed Action, no water rights will transfer to the State.

#### **3.2.5.2. No Action Alternative**

Under the No Action Alternative, the title transfer would not occur, and the lands and associated water rights and improvements would continue to be held by the PCWCD patrons, PCWCD, and the United

States. The lands would continue to be administered for Reclamation by PCWCD according to the purposes for which the project was authorized, subject to existing agreements and contracts with the State of Nevada.

Under the No Action Alternative, the District would not be required to create and maintain a minimum operational pool for fisheries in Rye Patch Reservoir.

If the title transfer were not to occur, Reclamation may choose to prepare an RMP to guide future land resources decisions for project lands. The preparation and implementation of an RMP would be subject to Congressional funding.

### **3.3. GEOLOGIC RESOURCES**

#### **3.3.1. Affected Environment**

The project area is located in the northwest corner of the Great Basin portion of the Basin and Range physiographic province. The Great Basin is characterized by northwest-trending mountain ranges separated by valley basins that have been filled with sediments derived from erosion of the adjacent mountains. Project lands are surrounded by the Antelope, Eugene, Humboldt, Majuba, and Trinity Ranges in the lower reaches of the Humboldt River; and the Battle Mountain, Sheep Creek, and Shoshone Ranges in the upper reach near Battle Mountain.

The sedimentary rocks most commonly found in the region are shale, sandstone, mudstone, siltstone, limestone, dolomite, carbonate rocks, and conglomerates. Granite rocks found in the area include quartz, monzonite, granodiorite, and several types of intrusive rocks. These rocks are found in portions of the Eugene Mountains, Majuba Mountains, Humboldt Range, Antelope Range, and the Trinity Range. Volcanic rocks, such as andesite, tuffaceous rocks, and basalt are not very prevalent in the area, but they can be found in scattered locations in the Trinity Range and the Eugene Mountains.

Nevada has seismic activity, especially toward the western part of the State. Local faults in the region are associated with all of the local mountain ranges. The most prevalent major earthquakes near the project area have occurred in the Carson City, Reno, and Fallon areas, southwest to south of the project area. In 1915, a 7.6 magnitude earthquake occurred along the Pleasant Valley Fault, approximately 40 miles southeast of the City of Winnemucca (DePolo et al. 2000). The potential Maximum Credible Earthquake (MCE) near transfer property areas is an earthquake magnitude of approximately 7.5.

Because of the number of active faults in the project area and the results of a risk study performed by the U.S. Department of the Interior, Reclamation contracted to strengthen the downstream portion of the Rye Patch Dam foundation in 1996 (USBR 1995b). This dam improvement provided an accepted safety factor, which minimizes an earthquake-related dam failure. Dam safety issues are discussed in **Section 3.6. Hazardous Materials and Safety.**

#### **3.3.2. Mineral and Natural Resources**

##### **3.3.2.1. Mining**

Mineral deposits in Pershing and Lander Counties are rich and diverse. The State of Nevada, Bureau of Mines and Geology, has established various mining districts within the State. Although there are several mining districts near lands to be transferred, there are no project lands within these mining districts.

There are no active mining operations on transfer properties; however, there are several inactive aggregate (sand and gravel) quarry sites on or near project lands. According to BLM land records there

are approximately 240 acres of active sand and gravel quarry sites in the Humboldt Sink area near I-80 (Deshler 2004). These quarry sites, along with several near the Rye Patch area were used during the construction of Interstate 80 and are not in continuous operation. There is a barite processing plant, operated by Baker Hughes INTLQ, near the eastern boundary of the Community Pasture (Feira Teoh 2004). The plant processes bentonite-rich clay that is mined nearby and packages the bentonite for commercial sales.

Nevada Cement Company is currently evaluating the suitability of a limestone resource near Rye Patch Reservoir for the manufacture of Portland cement. The mining operation will be located east of Interstate 80, and has been approved by BLM (BLM 2004).

#### **3.3.2.1.1. Geothermal**

There are thermal features within the Humboldt River Valley (BLM 2004). Although no thermal springs are known in the Humboldt Rye Patch area, two areas of low mounds formed by hot springs deposits have been identified in an area east of the Rye Patch Reservoir (Garside and Shilling 2004).

Exploratory geothermal drilling has occurred in the Rye Patch area since the late 1970s (Garside et al. 1988). The U.S. Department of Energy and the University of Nevada, Reno has provided funding for additional research and exploratory drilling for Presco Energy and Florida Canyon Mine to evaluate geothermal opportunities in the Rye Patch area.

At present, BLM is proposing to lease portions of public lands in Known Geothermal Resource Areas (KGRAs) and Prospectively Valuable Areas (PVAs) within the Winnemucca Field Office administrative boundary (BLM 2004). The Rye Patch Reservoir and Humboldt Sink area are located within this administrative boundary. A 12.5-megawatt geothermal power plant has been constructed in the Rye Patch KGRA, but it is not operational at this time.

#### **3.3.2.1.2. Oil and Gas Production**

Oil or gas production has not occurred on project lands. According to the BLM Winnemucca Field Office, four leases for oil and gas exploration in Pershing County have been issued (BLM 2004). However, none of these leases are located on project lands. No oil and gas leases have been issued for Lander County.

### **3.3.3. Environment Impacts**

#### **3.3.3.1. Proposed Action/Preferred Alternative**

Under the Proposed Action, Project lands would transfer to PCWCD, the State of Nevada, and Pershing and Lander Counties. The title transfer in and of itself would not affect geological resources on transfer lands. However the transfer may impact access to mineral and geothermal leases. The BLM has not yet resolved how it intends to handle these leases.

#### **3.3.3.2. No Action Alternative**

Under the No Action Alternative, the title transfer would not occur and lands would continue to be held by the United States and managed by Reclamation. Therefore, no significant impact to geologic conditions or existing geologic hazards would occur.

If the title transfer were not to occur, Reclamation may choose to prepare an RMP to guide future

resource decisions for Project lands, including mineral resources, within the parameters of the existing contracts between PCWCD and Reclamation. The preparation and implementation of an RMP would be subject to Congressional funding.

### **3.4. SOIL RESOURCES**

#### **3.4.1. Affected Environment**

The soils in the project area are related to the geology, landforms, relief, climate, and natural vegetation of the surrounding environment. During glacial times (more than 10,000 years ago), large expanses of Nevada were covered by shallow lakes. As a result of glacial melt, ancient lakes such as Lake Lahontan and Lake Bonneville covered significant basins in the State. Many of these lakes have subsequently become large salt flats as a result of recent mountain building along the western side of the State. Large deposits of alluvium settled into the lake from drainage of the Sierra Nevada mountain range and eastern regional mountain ranges. Further deposits of alluvium settled into the transfer areas as a result of erosion from the Humboldt River and its many tributaries.

Older meander belts of alluvial material generally underlie the Humboldt River Basin. These materials were formed by high stream flow during the late Pleistocene Era (~10,000 years) and consist of gravel alluvium deposits normally found at higher elevation along the banks of the river (Seagraves and Zielinski 1998). Above the alluvial material are deposits of fluvial mud and sands found in the major river channel and meander belts. This unit is composed largely of well-stratified, fine-grain over-bank deposits of mud and sand. Dark gray deposits of organic mud are common immediately adjacent to active channels and in localized wet areas.

The floodplain terraces of the Humboldt River are rarely inundated. These materials are characterized by flat, featureless surfaces overlain by a mantle of silt and minor sand ranging from a few inches to 3 feet thick. There are piedmont and slope deposits away from the main Humboldt River channel along or near mountain areas. These materials are generally coarse-grain alluvial fan or landslide deposits (Zielinski 1994).

The soil types within the Humboldt Sink and Rye Patch areas range from silt and clay-size sediment to coarse gravel sediment. Coarse gravel, cobbles, and small boulder-size sediment can be found on the eastern side of Rye Patch Reservoir (Petra Tech 2004). Several locations in this area have been mined for base-rock gravel and construction rock during the construction of the dam and I-80.

The soil types within the Battle Mountain project area range from silt and clay-sized sediments to coarse gravels and cobble sediments (Petra Tech 2004). Coarser soils can be found on the northern side of the project area near the Sheep Creek Mountains. Several locations in this area have been mined for base-rock gravel and construction rock.

Since 1951, PCWCD has leased the Battle Mountain Community Pasture for the purpose of grazing livestock belonging to Humboldt Project irrigators. To address potential soil erosion issues associated with livestock grazing, PCWCD hired a rangeland consultant in 1995 to develop a grazing management plan for the Community Pasture (Intermountain 1997). Since the adoption of that plan, PCWCD has reported significant improvement in the condition of the Community Pasture (Hodges 2004). The continued management of seasonal grazing under a regularly updated grazing management plan with surveys of rangeland conditions assures the long-term sustainability and economic productivity of the pasture.

Because of the alluvial soils in the valley areas and the location of nearby active faults, the potential for liquefaction on transfer lands is considered to be high (USBR 1995a). Studies performed near the Rye Patch Reservoir indicated a high risk to the dam structure as a result of liquefaction potential. As a result of these studies, Reclamation modified the current Rye Patch Dam by constructing a buttress wall along the downstream side of this dam in 1996. The construction of this buttress wall substantially reduced the risk of dam failure from liquefaction caused by a major earthquake in the region. In addition, a wetland restoration and erosion control plan was developed for the Rye Patch Reservoir following the dam reinforcement project (Western Botanical Services 1998).

#### **3.4.1.1. Prime or Unique Agricultural Lands**

“Prime farmland” is defined by the U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS) as farmlands best suited to the production of row, forage, and fiber crops. “Unique farmland” is defined by the NRCS as farmland that is not classified as “prime farmland,” but has special combinations of soil quality, location, topography, growing season, and moisture supply necessary to produce high yields of specialty crops such as fruits and vegetables.

The NRCS Office in Lovelock, Nevada indicated that there were no “prime” or “unique farmlands” within the title transfer properties (Anby 2004).

### **3.4.2. Environmental Impacts**

#### **3.4.2.1. Proposed Action/Preferred Alternative**

Under both the Proposed Action and No Action Alternatives, grazing of livestock by PCWCD patrons will continue in the Battle Mountain Community Pasture. PCWCD will continue to adhere to sound range management practices to help promote long-term grazing productivity and economic viability. The proposed recreational developments in the Rye Patch Reservoir and Humboldt Sink areas will occur under either the Proposed Action or No Action Alternatives. Minor impacts to soil resources may occur during construction of the proposed recreational facilities. However, these impacts are expected to be minor and would not result in any long-term impacts to soil resources in the area.

Wetland development in the Community Pasture could result in a localized change in soil condition caused by an increase in vegetation composition. However, this change is not likely to result in a negative soil impact.

#### **3.4.2.2. No Action Alternative**

Under the No Action Alternative, the operation and maintenance activities within the project area would not change. PCWCD patrons will continue to graze livestock in the Battle Mountain Community Pasture. In the absence of title transfer, impacts to soil resources would remain unchanged.

If the title transfer were not to occur, Reclamation may choose to prepare an RMP to guide future land resources decisions on Project lands within the parameters of existing contracts between PCWCD and Reclamation, including soil impacts from grazing activities in the Battle Mountain Community Pasture. The preparation and implementation of an RMP would be subject to Congressional funding.

## 3.5. BIOLOGICAL RESOURCES

### 3.5.1. Affected Environment

Plant community or habitat types in the Project area and their original dominant native plant compositions are summarized in **Table 3.5-1**. The dominant native upland plant communities of the Project area can be described as low-growing desert shrubs; typically sagebrush scrub in the higher, better-drained upland areas and Great Basin saltbush scrub in the lower-lying areas. Many upland areas have been heavily colonized by introduced invasive and noxious species. Riparian areas along the active Humboldt River floodplain were historically cottonwood-willow riparian scrub-forest, but much of this historic native habitat type has been invaded by non-native tamarisk shrub and other invasive and weedy species. Emergent wetlands with bulrushes and cattails and areas of open water have been known to occur in the Battle Mountain Community Pasture area, and are present but degraded in the Humboldt Lake and Toulon Lake areas of the Humboldt Sink. There is alkali meadow habitat along drier gravel bars of the Humboldt River and in the flat, less frequently inundated portions of the Humboldt Sink basin.

**TABLE 3.5-1 PLANT COMMUNITY TYPES IN THE HUMBOLDT PROJECT AREA**

Plant Community	Common Name	Botanical Name
Great Basin saltbush scrub	four-wing saltbush	<i>Atriplex canescens</i>
	shadscale saltbush	<i>Atriplex confertifolia</i>
	Nevada greasewood	<i>Glossopetalon spinescens</i>
	rubber rabbitbrush	<i>Chrysothamnus nauseosus</i>
	winterfat	<i>Krascheninnikovia lanata</i>
	Cooper wolfberry	<i>Lycium cooperi</i>
	black greasewood	<i>Sarcobatus vermiculatus</i>
Sagebrush scrub	low sagebrush	<i>Artemisia arbuscula</i>
	big sagebrush	<i>Artemisia tridentata</i>
Riparian scrub-forest	thickspike wheatgrass	<i>Agropyron dasystachyum</i>
	beardless wildrye	<i>Leymus triticoides</i>
	Fremont cottonwood	<i>Populus fremontii</i>
	golden currant	<i>Ribes aurum</i>
	narrow-leaved willow	<i>Salix exigua</i>
	silver buffaloberry	<i>Shepherdia argentea</i>
	bladder sedge	<i>Carex uriculata</i>
Wetland	spikerush	<i>Eleocharis pauciflora</i>
	Baltic rush	<i>Juncus balticus</i>
	sago pondweed	<i>Potamogeton pectinatus</i>
	Wood's rose	<i>Rosa woodsii</i>
	widgeon grass	<i>Ruppia maritima</i>
	hardstem bulrush	<i>Scirpus acutus</i>
	alkali bulrush	<i>Scirpus robustus</i>
Alkali meadow	broadleaf cattail	<i>Typha latifolia</i>
	inland saltgrass	<i>Distichlis spicata</i>
	common monkeyflower	<i>Mimulus guttatus</i>
	globemallow	<i>Sphaeralcea ambigua</i>
Non-Native Upland	Russian knapweed	<i>Acropylon repens</i>
	cheatgrass	<i>Bromus tectorum</i>
	tansy mustard	<i>Descurainia pinnata</i>
	halogeton	<i>Halogeton glomeratus</i>

**TABLE 3.5-1 PLANT COMMUNITY TYPES IN THE HUMBOLDT PROJECT AREA**

Plant Community	Common Name	Botanical Name
	foxtail barley	<i>Hordeum jubatum</i>
	kochia	<i>Kochia scoparia</i>
	clasping pepperweed	<i>Lepidium perfoliatum</i>
	perennial pepperweed (tall whitetop)	<i>Lepidium latifolium</i>
	alfalfa	<i>Medicago sativa</i>
	rabbitsfoot grass	<i>Polypogon monspeliensis</i>
	hornseed buttercup	<i>Ranunculus testiculatus</i>
	Russian thistle, tumbleweed	<i>Salsola tragus</i>
	tumble mustard	<i>Sisymbrium altissimum</i>
<b>Non-Native Riparian</b>	salteedar tamarisk	<i>Tamarix chinensis</i>

Source: Bull and Richards 2003, Eissman et al. 1991, Bradley 1991

Native upland shrubs include sagebrush, winterfat, and rabbitbrush. The drier and hotter regions of the area support shadscale saltbush, four-wing saltbush, Nevada greasewood, and Nevada ephedra. Non-native weed species include tamarisk (noxious weed), kochia, hornseed buttercup (toxic to livestock), Russian knapweed (noxious weed), pepperweed (noxious), tansy mustard, rabbitsfoot grass, tumble mustard, tumbleweed, halogeton, foxtail barley, and cheatgrass (invasive grass). These weeds are invasive and readily displace native species, especially after land disturbance or alternation to natural grazing and fire cycles. Cheatgrass, introduced from Asia near the beginning of the 20th century, is becoming increasingly widespread in Nevada. The grass takes moisture and nutrients from native species, causing their decline, and has been associated with an increased occurrence of wildfires since the 1950s.

Only a small percentage of the State of Nevada is classified as riparian or wetland, and these few areas provide valuable wildlife habitat. Much of the State's biodiversity and grazing economy depends on these areas. Typical riparian and wetland vegetation has historically included Fremont cottonwood, narrow-leaved or sandbar willow, spikerush, bulrush, and cattail.

The project area supports a variety of wildlife species within remaining native riparian scrub-forest, wetland, open water and alkali meadow habitats. Much of this historic high-value habitat has been damaged or lost and either converted to upland grasses, forbs and shrubs, or invaded by tamarisk and other floodplain invasive weeds (Bradley 1991). These areas support a variety of waterfowl, wading bird, shorebird, and songbirds, as well as several water-associated mammals. Many of the bird species are migratory and take advantage of seasonal flooding, with highest numbers in the wettest years. Desert upland sagebrush and saltbush scrub communities are not as supportive of wildlife. According to a recent NDOW report, wildlife diversity is declining in Nevada (Bradley 1997). Many natural ecosystems and habitat types are degraded with compromised structure, function, and values; and support fewer wildlife species and numbers. Even though the wildlife species diversity and population levels have declined, wildlife presence in the project area is relatively high compared to the State as a whole.

The Rye Patch Reservoir, Humboldt Smk, and Foulon Lake support important permanent or seasonal open-water habitats, as well as remnant aquatic, riparian, wetland, wet meadow, and alkali meadow habitats along the Humboldt River floodplain. **Appendix I** provides a summary list of wildlife species that could occur in the project area. The list was compiled from a study of Wildlife and Wildlife Habitats Associated with the Humboldt River and Its Major Tributaries (Bradley 1991), the Humboldt Wildlife Management Area Conceptual Management Plan (Bull and Richards 2003), Rye Patch State Recreation Area Development Plan (Eissmann, et al. 1991) and other sources. This list is inclusive of all wildlife species found along the Humboldt River, and may include several species that are not likely to be present within the project area because of the much larger area this list covers, including headwater tributaries.



## 3.5.2. Humboldt Sink

### 3.5.2.1. Habitat Types in the Humboldt Sink

Natural cycles in rainfall, runoff, and flooding are the primary factors in determining biological productivity of the Humboldt WMA from year to year. In drought years, there may be only shallow, short-duration flooding of upper Toulon Lake and small portions of Humboldt Lake. In extreme flood years, most of the Humboldt Sink will flood, and flooding may extend to Jessup Flat and connect with Carson Sink floodwaters, creating optimal conditions for migratory wildlife (Neel 2004).

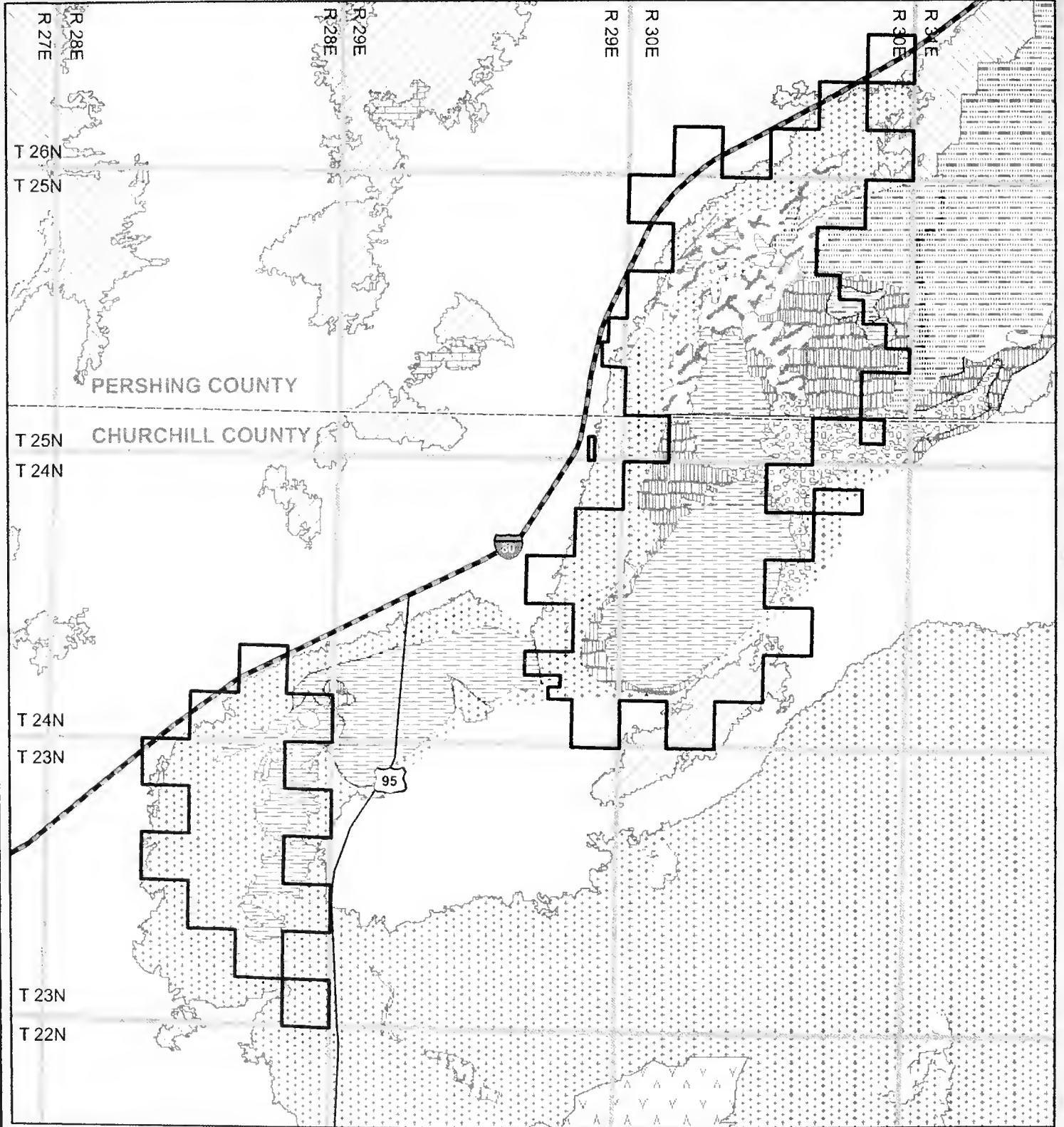
Humboldt Project lands within the Humboldt Sink include major portions of three sections and minor portions of two sections of alkali desert scrub uplands northwest of I-80; two sections and parts of three sections of mostly playa and wetland habitat north of Toulon Lake and southeast of I-80; four sections and part of a fifth in the West Humboldt Range in the southwestern portion of the Humboldt Sink rim that support salt desert scrub and sagebrush habitat; and 13 sections in a checkerboard pattern in Jessup Flat (a large playa or alkali flat with a lacustrine wetland corridor that seasonally floods in wetter years) and associated salt desert scrub uplands along I-80 that are not part of the current Humboldt WMA boundaries. Jessup Flat is a separate basin or playa that hydrologically connects the Humboldt Sink to the Carson Sink during major flood events on the Humboldt River.

Uplands habitats comprise about 52 percent of Project lands in the Humboldt Sink, including about 24 percent alkali desert scrub around the perimeter of the transfer area and 25 percent unvegetated alkali flat, primarily in Jessup Flat. A little more than 2 percent of the habitat is sagebrush in the Western Humboldt Range, and less than 1 percent is greasewood at the northeast portion of the project area in or adjacent to the sections proposed to be transferred to Pershing County near Derby Field.

The most productive habitat types in the Humboldt WMA consist of lacustrine, riverine, fresh emergent wetland, wet meadow, and desert riparian. These habitat types encompass up to two thirds of the Humboldt Sink in wet years. A series of projects sponsored in the 1990s by entities including NDOW, the Rochester Mine, Ducks Unlimited, and the Nevada Waterfowl Association resulted in the restoration of a substantial portion of the aquatic, wetland, and riparian habitats within the Humboldt WMA. One project, the Humboldt Sink Nesting Island Project, created 25 nesting islands in the Humboldt Sink for use by waterfowl (Nevada Waterfowl Association 1993). These habitat types are further described below and are shown in **Figure 3.1**. It is estimated that about 48 percent of project lands in the Humboldt Sink is composed of these habitat types.

*Alkali Desert Scrub* - Alkali desert scrub (also known as Great Basin saltbush scrub) habitat are located primarily at or near the WMA and project lands between the lacustrine habitats and the upland sagebrush habitats outside the area. Dominant plants in this habitat type are black greasewood, shadscale, and inland saltgrass. Alkali desert scrub represents about 24 percent of the project lands in the Humboldt Sink.

*Unvegetated Alkali Flat* - Unvegetated alkali flats are the saltpans or playa of a dry lake, which is usually salt encrusted and devoid of plants. Toward the edge of the playas, intermittent patches of halophytes (salt-tolerant plants) occur on soil mounds raised a few centimeters or decimeters above the playa level (Vasek and Barbour 1977). During wet years, these dry, unvegetated alkali flats may be inundated and considered lacustrine habitat. Unvegetated alkali flats cover approximately 25 percent of the total project acreage in the Humboldt Sink, and are located primarily in the southern end of Toulon Lake and Jessup Flat.

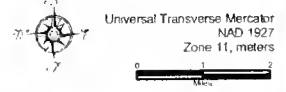


- |                                 |                        |                                |
|---------------------------------|------------------------|--------------------------------|
| Interstate                      | Seasonally Flooded     | Playa                          |
| Major Road                      | Riverine               | Alkali Desert Scrub            |
| Humboldt Project Area           | Fresh Emergent Wetland | Sagebrush/ Perennial Grassland |
| <b>Wetlands Classifications</b> |                        |                                |
| Lacustrine                      | Gap Vegetation         | Agriculture                    |
| Desert Riparian                 | Greasewood             | Sand Dune                      |
|                                 | Sagebrush              |                                |

### Humboldt Project Conveyance EIS

**Figure 3.1: Habitat Types of Humboldt Sink and Jessup Flat Area**

Date: 10.11.04    File: HAB\_003-06R    Author: djb



*Sagebrush Scrub* – This upland habitat is dominated by low and big sagebrush. Approximately 2 percent of project lands in the Humboldt Sink are composed of sagebrush habitat in the higher portions of the Western Humboldt Range.

*Greasewood* – This habitat type consists of lower-lying uplands dominated by black greasewood and occupies about 1 percent of project lands in the Humboldt Sink in and adjacent to the portion proposed to be transferred to Pershing County.

*Desert Riparian* – Desert riparian habitats are characterized by dense groves of low, shrub-like trees. An abrupt transition often occurs between this and adjacent shorter and more open desert habitats. These relatively rare desert systems are extremely important to wildlife populations because they support more bird species at greater densities than any other desert habitats. The dense shrubbery and permanent water provide food, cover, and water for a vast array of wildlife. The desert riparian habitat at the Humboldt WMA is located along the banks of the Humboldt River and between the lacustrine habitats of the Humboldt Sink and Toulon Lake. This habitat type has been invaded by tamarisk on most portions of the Humboldt WMA. Other common plant species in this habitat type include perennial pepperweed (noxious weed), inland saltgrass, sedges and rushes. There are approximately 11,130 acres of desert riparian habitat in the Humboldt WMA. This habitat type represents approximately 20 percent of project lands in the Humboldt Sink.

*Wet Meadow* – Wet meadows usually occur as ecotones between fresh emergent wetlands and perennial grassland and mesic meadow types. They generally have a simple structure consisting of a layer of herbaceous plants, while shrub or tree layers are usually very sparse. However, they may be an important feature of the meadow edge. Slight differences in water depth control what species are present where wet meadows merge with fresh emergent wetlands. Common plant species on Humboldt WMA in this habitat type include rushes, sedges, alkali bulrush, cattail, and hardstem bulrush. Waterfowl use this habitat type for food, escape cover, and nesting habitat. There are up to about 455 acres of this habitat type in the Humboldt WMA with less than 1 percent located on project lands.

*Fresh Emergent Wetland* – Fresh emergent wetlands flood frequently and the roots of the vegetation prosper in an anaerobic (oxygen depleted) environment. They are characterized by erect, rooted herbaceous hydrophytes (water-tolerant plants). Generally, perennial monocots (grass-like species) up to 6 feet high dominate vegetation (Cowardin et al. 1979). Dominant habitat types in fresh emergent wetland on the Humboldt WMA include alkali bulrush, hardstem bulrush, cattail, sago pondweed, widgeon grass, and rushes.

Fresh emergent wetlands are among the most productive wildlife habitats in Nevada. They provide food, cover, and water for numerous species of birds (waterfowl and wading birds), mammals, reptiles, and amphibians. The acreage of fresh emergent wetlands in Nevada has decreased dramatically since the turn of the century due to drainage, water diversion, and land conversion to other uses. Periodic droughts have compounded the decline in wetland acreage and quality over the last 100 years. There are up to 2,550 acres of fresh emergent wetlands within the Humboldt WMA. About 5 percent of project lands in the Humboldt Sink are freshwater emergent wetland.

*Riverine* – The riverine system includes wetlands and deepwater habitats contained within a channel (Cowardin et al. 1979). In the Humboldt WMA, this habitat type includes the Humboldt River, which empties into the northeast corner of Lower Humboldt Lake, and the Toulon Drain, which empties into either Toulon Lake or the Humboldt Lake through a control structure located at the north end of the Toulon Lake. Another riverine corridor is the Army Drain located at the north end of upper Humboldt Lake. Dominant plants in this habitat type are tamarisk, perennial pepperweed, cattail, and willow. There are about 275 acres of riverine habitat within the Humboldt WMA, including about half of 1 percent on

project lands in the Humboldt Sink.

*Lacustrine* - Typical lacustrine habitats include permanently flooded lakes and reservoirs, intermittent lakes, and pond habitats with extensive areas of deepwater habitat (Cowardin et al 1979). Vegetation, when present, is predominantly non-persistent emergent plants (cattails and hardstem bulrush) or submerged or floating plants such as sago pondweed. Lacustrine habitat within the Humboldt Sink WMA includes the Upper and Lower Humboldt Lakes and Toulon Lake. These lake bodies become inundated by high-volume runoff and periodic floodwaters. The deepwater provides habitat for widely fluctuating fish populations, which are fed upon by cormorants, pelicans, herons, egrets, gulls, Forster's terns, and Caspian terns. Diving ducks feed on submergent plants and freshwater invertebrates in deepwater habitats. Shallow littoral zones provide feeding areas for puddle ducks and shorebirds. Lacustrine habitats provide reproduction, foraging, water, and cover resources for mammals, birds, reptiles, amphibians, and fish. Based on aerial photos taken June 22, 1995, there were about 10,730 acres of lacustrine habitat in the Humboldt WMA during spring/summer snowmelt and flood conditions. About 22 percent of project lands in the Humboldt Sink are composed of lacustrine habitat, including those sections located in Humboldt Lake, the lower portions of the Humboldt Sink, and the lower portions of Jessup Flat.

One of the biggest threats to wildlife habitat value in Humboldt WMA has been the rapid spread of invasive and noxious plant species, especially tamarisk. In the early 1880s, tamarisk, also called saltcedar, was introduced into Southern California and Arizona as a stream bank stabilizer and ornamental shrub. It had no predators or diseases, and it spread rapidly – more than 12 miles a year by one estimate – into virtually every river system in the arid west. Tamarisk replaces native riparian vegetation, such as cottonwoods and willow, while providing a significantly inferior resource for wildlife (Farmer 1998). By 1996, more than 14,000 acres of the Humboldt Sink were infested with tamarisk (Stevenson 1996). In 1997, Natural Resource Conservation Service officials estimated that more than 60 percent of the Humboldt Sink was in total tamarisk canopy cover. Another 6,000 acres of the Humboldt River and associated reservoirs are impacted. Tamarisk has colonized several thousand acres of saltgrass pasture. Tamarisk control measures in the Humboldt Sink have included a controlled release of Chinese leaf beetle (*Diorhabda elongata*), herbicides, and other weed management techniques.

The University of Nevada, Reno (UNR), PCWCD and NDOW are working cooperatively at using integrated tamarisk control methods, including: expansion of biological control (Chinese leaf beetle); mechanical control along ditches; targeted use of herbicides; and potential use of controlled burns in an attempt to not only halt its advance, but recover habitat within the Humboldt WMA and better functional use of the drains and irrigated lands upstream. The variety of Chinese leaf beetle deployed in this area seems ideally suited to the local climate. It successfully over-winters and has had the highest success rate of all recent U. S. Department of Agriculture test releases (Carruthers and Deloach 2004). Initial results from release of the leaf beetle are encouraging, and the PCWCD and NDOW hope to expand the eradication and revegetation program (Bull and Richards 2003). NDOW hopes to expand exotics control for other species, including knapweed, thistle, and perennial pepperweed.

Minor capital improvements are proposed for the Humboldt WMA using existing Title 28 Reclamation Recreation Management Act cost-sharing monies. These include improving existing levee roads to improve wet season access to recreation sites, improving an existing campground and boat ramp on the west side of Humboldt Lake, and adding a public wildlife viewing platform. Access to these three facilities would be designed as defined by the Americans with Disabilities Act (ADA accessible). These capital improvements involve existing facilities or clear areas with little or no disturbance to natural vegetation or wildlife habitat.

### 3.5.2.2. Wildlife Resources in the Humboldt Sink

The fauna found in the Humboldt Sink area is extremely diverse, primarily because of the diverse array of habitat types and relatively high quality of wetland types found during normal hydrological cycles. Preservation and management of the Humboldt WMA has been focused on waterfowl, but has benefited other wildlife, including wading birds, shorebirds, raptors, resident songbirds, and migrant birds. The Humboldt WMA also serves a valuable support role for the Lahontan Valley Wetlands (including Carson Sink and Fallon and Stillwater National Wildlife Refuges a short distance to the south) in sustaining migratory and breeding waterfowl, shorebird, and wading bird populations.

More than 21 species of ducks have been recorded in the Humboldt WMA (Bull and Richards 2003). The most common are dabbling ducks, including pintail, green-winged teal, widgeon, mallard, and northern shoveler. Redhead, canvasback, and ruddy ducks are the most common diving ducks, and mergansers are the common fish-eating ducks. Annual peak duck counts have averaged 30,872, with a peak of 76,625 during the 1975-1976 season. Canada geese (average 693, peak 2,690 1984-1985) and tundra swans (average 498, peak 3,890 1986-1987) are the common large waterfowl. Coots are the most common waterfowl, with numbers averaging 38,078 since the late 1950s and peaks in excess of 100,000 birds (Bull and Richards 2003).

Marsh or wading birds include least and American bitterns, and Virginia and sora rails. The Humboldt WMA is a nesting site for several species of herons and egrets when conditions are favorable (Bull and Richards 2003). The Humboldt WMA has been documented as an important nesting site for white-faced ibis, a species of management concern whose population is now in good health (Neel 2004).

Shorebirds are most numerous during the fall and spring migrations, and numbers are extremely variable depending on water levels from year to year. The Humboldt WMA, along with the Lahontan Valley WMA have been designated a Western Hemispheric Shorebird Reserve (Neel 2004). In years of extensive shallow flooding, the Humboldt WMA supports large numbers of migratory shorebirds. Shorebird numbers consistently range between 3,000 and 5,000 when flooded habitat is available, and reached a peak population of more than 10,000 birds in April 1989 (Bull and Richards 2003). Breeding shorebirds include American avocet, black-necked stilt, snowy plover, killdeer, and long-billed curlew.

When water level fluctuations are reasonable and fish populations thrive in the lakes, the Humboldt WMA provides important foraging habitat for fish-eating birds, including double-crested cormorant, American white pelican, and several species of grebes, gulls, and terns. When conditions are favorable, a large nesting colony of double-crested cormorants; Caspian terns; great white, great blue, and black-crowned night herons; and egrets will come together on the ridges of sand that form along the historic mouth of the Humboldt River (Neel 2004).

A variety of raptors use the Humboldt WMA and PCWCD lands to the north during all seasons. Nesting raptors in the area include great-horned and burrowing owls; red-tailed, Swainson's, and ferruginous hawks; northern harrier, and American kestrel. Golden eagles and prairie falcons nest on the bluffs and tufa outcrops in the hills around the margin of the sink and forage within the project area. Bald eagles, rough-legged hawks, merlins, and short-eared owls are winter visitors. Peregrine falcons (de-listed in 1999 as a federal endangered species) have been observed hunting shorebirds in the Humboldt WMA during migration and when conditions were suitable (Bull and Richards 2003).

No surveys of songbirds have been conducted. Emergent wetlands are known to support breeding populations of yellow-headed and red-winged blackbirds, marsh wren, common yellowthroat, and song sparrow, while saltgrass meadows have breeding savannah sparrows and horned larks. In the Humboldt WMA, tamarisk has nearly replaced higher-value native riparian vegetation that historically supported

many native riparian songbird species. Tamarisk riparian communities support a lower diversity and number of more typically “generalist” species, including horned lark, Brewer’s blackbird, western meadowlark, mourning dove, barn swallow, bushtit, western kingbird, and loggerhead shrike (Bull and Richards 2003).

A variety of small and medium-sized mammals are present in the Humboldt Sink area. These include carnivores such as coyote, striped and spotted skunk, long-tailed weasel, and badger. Common herbivorous and granivorous species include black-tailed jackrabbit, antelope, ground squirrels, pocket gophers, deer and grasshopper mice, voles, and other small rodents (Bull and Richards 2003). Several species of bats that use caves and crevices in nearby mountains and tree cavities may forage over riparian and wetland habitats. The cyclic drying of emergent wetland vegetation can support large numbers of rodents, such as voles, which in turn attract large numbers of hawks, harriers, and owls.

The zebra-tailed lizard, great basin gopher snake, and western ground snake are commonly observed upland reptiles, while Great Basin rattlesnakes are occasionally observed. The long-nosed leopard lizard and red coachwhip snake inhabit the interface between the dry saltbush scrub uplands and the riparian strip of the Humboldt River (Bull and Richards 2003). Non-native bullfrogs are known to be present in more persistent open-water and emergent habitats.

Fish populations in the Humboldt WMA are sporadic because of wide fluctuations in water levels resulting from annual and antecedent climatic conditions. High river flows can result in fish being flushed through the Humboldt River system and into the lakes in the Humboldt Sink. When conditions are favorable to provide prolonged water supplies, relatively large numbers of warm-water fish can exist in the lakes until the waters recede. Non-native, warm-water game fish species include channel and white catfish; white, largemouth, and smallmouth bass; yellow perch; white crappie; and walleye. Non-game fish, such as the native Lahoe sucker and Lahontan redbreasted sunfish, and exotic Asiatic carp and mosquitofish, are also present under the same conditions, and some of the smaller species may be present for longer periods because of their ability to tolerate more marginal conditions (Bull and Richards 2003).

### **3.5.2.3. Sensitive Species in the Humboldt Sink**

A review of the Nevada Natural Heritage Program (NvNHP) database for lands on or near Humboldt WMA identified one sensitive wildlife species and four sensitive plant species with the potential to occur in the area (NvNHP 2004). These include the American white pelican, and plants like the Lahontan milkvetch, wind-loving buckwheat, Nevada dune beardtongue and Lahontan beardtongue (NvNHP 2001). None of these species are federally listed as threatened or endangered under the Endangered Species Act.

The American white pelican nests on Anaho Island on Pyramid Lake. Brood-rearing white pelicans routinely commute on a daily basis from Pyramid Lake to shallow-water habitats of the Humboldt WMA that are more conducive to their fishing techniques. White pelicans also commute to similar wetland habitats in the Lahontan Valley.

Lahontan milkvetch is a perennial legume with yellow flowers that bloom in late spring. It is an endemic Nevada species on the NvNHP Watch List that occupies habitat at elevations from 4,020 to 5,200 feet, including open, often alkaline areas, sandy to gravelly washes, alluvium, gullies on clay badlands, knolls, or playa edges in the shadscale zone.

The Nevada dune beardtongue is endemic to Nevada. It is a federal Species of Concern, a BLM Special Status Species, a Humboldt-Toiyabe National Forest Sensitive Species, is listed on the Nevada Native Plant Society Watch List and the NvNHP Sensitive List. Populations of Nevada dune beardtongue have been recorded south of the project area at elevations of 3,920 to 5,920 feet; in deep, loose, sandy soils of valley bottoms, aeolian deposits, and dune skirts; often in alkaline areas; and sometimes on road banks

and other recovering disturbances in such soils in the shadscale zone. This plant depends on sand dunes or deep sand, and may occur in locally suitable habitat within the Humboldt Sink.

Lahontan beardtongue is an endemic Nevada species that is on the NNPS Watch List and the NVNHP Sensitive List. Populations have been recorded west of the project area at elevations of 3,428 to 4,550 feet along washes, roadsides, and canyon floors; particularly on carbonate-containing substrates. This plant may occur in locally suitable habitat within the Humboldt Sink.

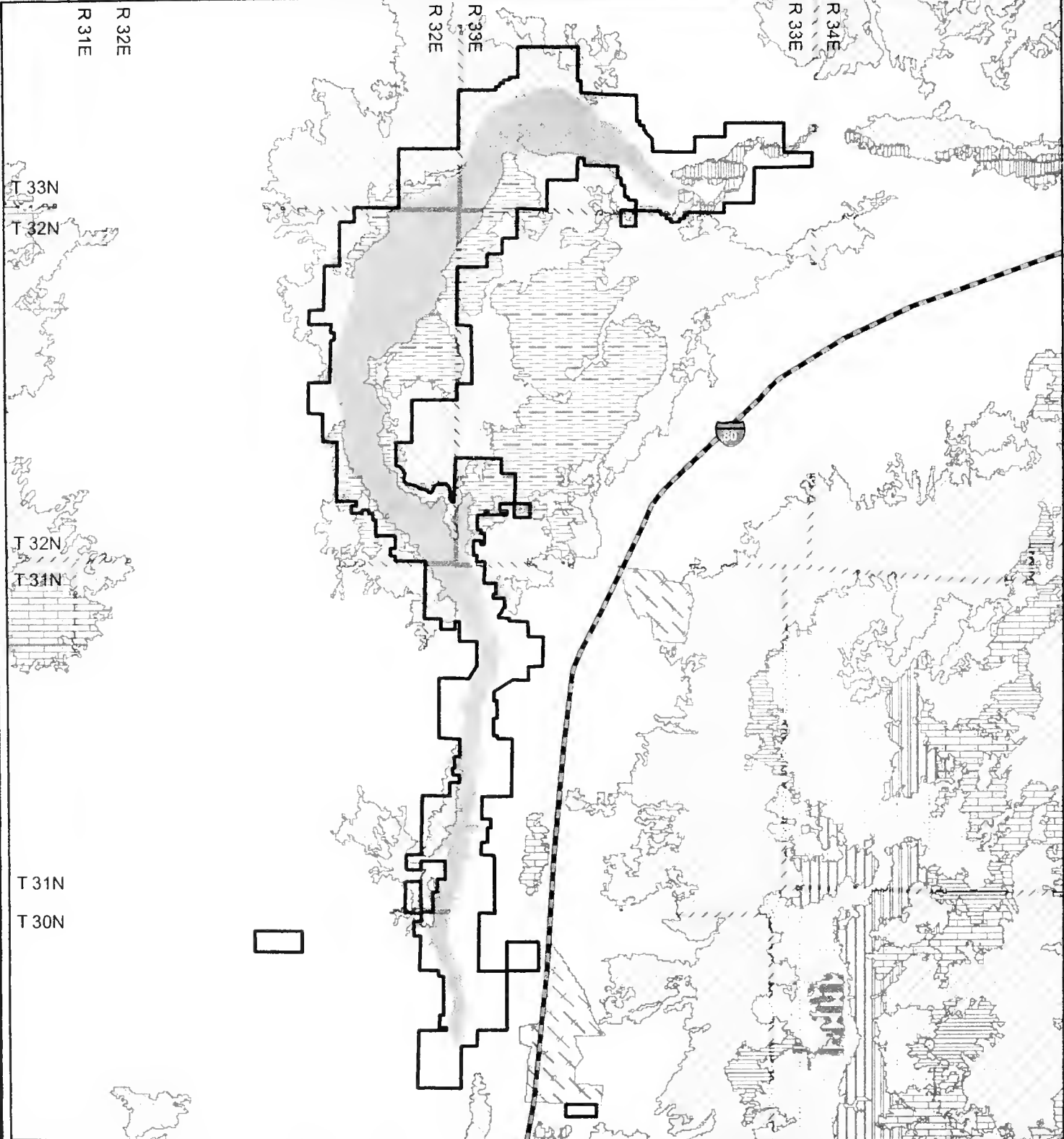
Bald eagles, a federally threatened species, over-winter in the Humboldt Sink in small numbers, with larger numbers observed in flood years that bring an abundance of warm-water fish to the Humboldt Sink in large numbers. The nearest known nesting area is in the Washoe Valley, which is a considerable distance southwest of the project area. The peregrine falcon, recently delisted as an endangered species, is an occasional visitor to the area. The sagebrush habitat in the Western Humboldt Range is relatively small in area and isolated with less vegetative and topographic complexity and cover. Therefore, it is unlikely to support significant numbers or reproductive habitat for sage grouse, a species of concern. The United States Fish and Wildlife Service (USFWS) identified several species of concern (which are not federally protected under FSA but are of management concern to wildlife agencies), including pygmy rabbit, several species of bats, birds of prey (northern goshawk, western burrowing owl) and water birds (black tern, least bittern, white-faced ibis, and American white pelican) that occur in the Humboldt Sink, with highest abundance during spring migrations in flood years (USFWS 2003, see **Appendix II**).

### **3.5.3. Rye Patch Dam and Reservoir**

#### **3.5.3.1. Habitat Types in the Rye Patch Dam and Reservoir Area**

The dominant habitat type at Rye Patch above the reservoir is Great Basin saltbush scrub. Dominant species around the shoreline include black greasewood, four-wing saltbush, tamarisk, cheat grass, halogeton, Russian thistle, and native Great Basin wildrye. Great Basin saltbush scrub blends into desert sagebrush scrub habitat on the upland mesa surrounding the reservoir. This area is dominated by sagebrush, shadscale saltbush, rabbitbrush, and black greasewood (Frisman et al. 1991). The infrequently inundated Pitt-Taylor Reservoirs have a mix of upland scrub and lacustrine habitat, including saltgrass, wildrye, and tamarisk, and may support cattails and bulrush (tule) when inundated. However, the mesa above the reservoir as well as land adjacent to the project area has been heavily colonized by non-native invasive and noxious weed species (Western Botanical Services 1998). Weeds dominate the vegetation in some areas. Non-native weed species identified throughout the project area in 1997 included koehia, hornseed buttercup, Russian knapweed, perfoliate pepperweed, tansy mustard, rabbitsfoot grass, tumble mustard, cheatgrass, halogeton, foxtail barley, tamarisk, and Russian thistle (Western Botanical Services 1998).

Native riparian and aquatic plants along the river upstream and (to a lesser extent) downstream from the reservoir include Fremont cottonwood, narrow-leaved willow, buffalo berry, common monkeyflower, common spikerush, beautiful spikerush, and Baltic rush. This riparian scrub-forest habitat is patchy and disturbed, and has been heavily invaded or replaced by tamarisk and, to a lesser extent, Russian olive. Upland shrubs, including sagebrush, rabbitbrush, black greasewood, and a number of grasses and forbs are also found interspersed with the above-mentioned riparian and wetland species along the river corridor upstream and downstream from the reservoir (Frisman et al. 1991). Major vegetation communities or habitat types in the Rye Patch Reservoir project area are shown in **Figure 3.2**.



Interstate  
Major Road  
Humboldt Project Area

**Gap Vegetation**

- Aspen
- Juniper
- Greasewood
- Mountain Sagebrush
- Mountain Shrub
- Sagebrush
- Sagebrush/Perennial Grass

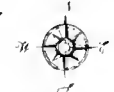


Alkali Desert Scrub  
Grassland  
Desert Riparian  
Lacustrine  
Urban  
Open Water and Irregularly Flooded Reservoir

**Humboldt Project Conveyance EIS**

**Figure 3.2: Habitat Types of Rye Patch Reservoir Area**

Date: 10.11.04    file: HAB\_002-06R    Author: djb



Universal Transverse Mercator  
NAD 1927  
Zone 11, meters



A wetland restoration and erosion control plan was developed for Rye Patch Reservoir following a dam reinforcement project (Western Botanical Services 1998). The restoration work included construction of approximately 15 acre of new wetlands, establishment of a transitional wetland upland area, establishment of an upland Great Basin shrub community, and treatment of two borrow pits that provided structural material for the dam. The purpose of the work was to create new wildlife habitat and stabilize areas disturbed during construction. Plantings included rubber rabbitbrush, Fremont cottonwood, Wood's rose, big sagebrush, four-wing saltbush, golden currant, buffalo berry, winterfat, globemallow, a wheatgrass 'Re-green' hybrid, thickspike wheatgrass, beardless wildrye, Indian ricegrass, and alfalfa. 'Wetland plugs' were also used, including Nebraska sedge, bladder sedge, spikerush, hard stem bulrush, and Baltic rush. Plant species known to occur at in the Rye Patch State Recreation Area or common to the area are listed in **Table 3.5-2**.

**TABLE 3.5-2 PLANT COMMUNITY TYPES IN THE RYE PATCH RESERVOIR PROJECT AREA**

Common Name	Scientific Name
Alkaligrass	<i>Puccinellia</i> sp.
Bailey greasewood	<i>Sarcobatus</i> sp.
Big sagebrush	<i>Artemisia tridentata</i>
Black greasewood	<i>Sarcobatus vermiculatus</i>
Bluegrass	<i>Poa</i> sp.
Bottlebrush squirreltail	<i>Sitanion</i> sp.
Bud sagebrush	<i>Artemisia spinescens</i>
Buffalo berry	<i>Shepherdia arguta</i>
Cattail tule	<i>Typha</i> sp.
Cheatgrass	<i>Bromus tectorum</i>
Four-wing saltbush	<i>Atriplex canescens</i>
Fremont cottonwood	<i>Populus fremontii</i>
Halogeton	<i>Halogeton glomeratus</i>
Horsebrush	<i>Tetradymia</i> sp.
Indian ricegrass	<i>Oryzopsis hymenoides</i>
Inland saltgrass	<i>Distichlis strict</i>
Nevada Ephedra	<i>Ephedra nevadensis</i>
Rabbitbrush	<i>Chrysothamnus</i> sp.
Russian olive	<i>Elaeagnus angustifolia</i>
Russian thistle	<i>Salsola kali</i>
Sagebrush	<i>Artemisia</i> sp.
Seepweed	<i>Suaeda fruticosa</i>
Shadscale	<i>Atriplex confertifolia</i>
Sickle saltbush	<i>Atriplex</i> sp.
Spiny hopsage	<i>Grayia spinosa</i>
Tamarisk (Saltecedar)	<i>Tamarix</i> sp.
Tumble mustard	<i>Brassica</i> sp.
Wildrye	<i>Elymus cinereus</i>
Willow	<i>Salix</i> sp.
Winterfat	<i>Ceratoides lanata</i>

Source: Frisman et al. 1991

### 3.5.3.2. Wildlife Resources in the Rye Patch Dam and Reservoir Area

The complete list of species known to occur in the Rye Patch Reservoir project area can be found in **Appendix I**. Ninety-two species of birds, including 33 species of resident and migratory waterfowl, wading birds, and shorebirds have been observed in the area (Eissman et al. 1991). These include Canada geese, resident coots, fish-eating grebes and cormorants, and various migratory ducks, geese, and occasional swans. Hawks and owls may nest or roost in trees along the river and hunt along the canyon and mesas. The river and upland attract a diversity of riparian and upland birds, including many songbirds and species that are water-dependant, such as kingfishers and swallows. The region supports game birds, including quail and chukar on the lower mountain slopes surrounding the basin, and pheasant in the irrigated fields of the Lovelock Valley.

There are 32 species of mammals either known to occur at Rye Patch State Recreational Area or common to the area and likely to be found within the park (Eissman et al. 1991). Mule deer are numerous throughout the park, particularly when winter forage is abundant. Other common mammals include coyote, fox, and several species of rabbits, rats, voles, squirrels, and mice. Species such as beaver, muskrat, river otter, and bats depend on riparian and open-water habitat provided by the reservoir and river. Other species, such as raccoon and skunk, while native to the region, may be attracted to unattended food and garbage left by campers. Mountain lion have been observed in the park (Orr 2004b).

During wet years, the lowland riparian and wetland area below Callahan Bridge at the north end of Rye Patch Reservoir provides favorable habitat for wading birds, including the white-faced ibis, least bittern, and other fish-eating water birds such as the black tern. Regionally, these migratory species are present in higher numbers in the Lahontan Valley (e.g. Fallon National Wildlife Refuge, Carson Sink) and in Humboldt Sink when conditions are favorable.

Rye Patch Reservoir supports an important recreational fishery dominated by non-native, warm-water species. The reservoir and adjacent river contain up to 21 species of fish, including largemouth and some smallmouth bass, channel and white catfish, walleye, white crappie, green sunfish; and non-game species, including Asian carp and limited numbers of native Lahontan tui chub, Lahontan sucker, and redbside shiner (French 2004). White catfish, white bass, and walleye are the more important self-sustaining, non-native game fish (Eissman et al. 1991).

In the early 1990s, a multi-year drought drastically reduced water levels in the Rye Patch Reservoir and resulted in a major fish kill in 1992. NDOW initiated a restocking program between 1993 and 1995. Species stocked included white and channel catfish, largemouth and smallmouth bass, “whipers” (a sterile cross between white bass and striped bass), and walleye. Sterile whipers are used because of the aggressive behavior of bass and their potential to dominate a fishery. Walleye reproduce in limited numbers because of the wide fluctuations in water level. To support this warm-water sport fishery, NDOW has continued to stock Rye Patch Reservoir and the Humboldt River near Winnanueca on an average of about 2 years in every 5 since 1995, depending on river flows, fish population levels, and the availability of stock (French 2004).

Rainbow trout have been stocked in previous years. However, the reservoir does not provide the appropriate low temperatures, high dissolved oxygen, food sources, and other habitat conditions during the summer and early fall months that are needed to support this cold-water game species. Therefore stocking is limited to less than 500 fish in the 8-inch-to-12-inch range in the late fall and early spring to support a “put and take” sport fishery (French 2004). This population of rainbow trout is not self-supporting.

Reservoir volumes, (and therefore depths and surface area) are subject to major annual fluctuation, as well as drastic variation in drought and flood years. These fluctuations substantially affect habitat quality of the fishery (e.g. temperature, dissolved oxygen, food availability, overcrowding, predation, etc.), species composition and population levels. These fluctuations affect overall angler use and success, with the most drastic adverse affects occurring during the dry season of drought years, when reservoir carryover storage is at a minimum.

### **3.5.3.3. Sensitive Species in the Rye Patch Dam and Reservoir Area**

There are no known federally threatened or endangered plant species within the Rye Patch State Recreation Area. The federally threatened bald eagle has been observed to periodically visit and roost at Rye Patch Reservoir during winter and spring months. Species of concern that may be present at Rye Patch include pygmy rabbit, several species of bats, birds of prey and water birds, sage grouse, and the Nevada Viceroy butterfly (USFWS 2003, see **Appendix II**).

Two plant species of concern could potentially occur. Nevada oryctes, is a small annual plant known to occur just outside of the northern end of the park. This plant is a USFWS Species of Concern (former Candidate Category 2) and a Northern Nevada Plant Society “watch” species (Fassman et al. 1991). Nevada oryctes populations have been recorded at elevations ranging from 3,900 to 5,960 feet, in deep, loose sand of stabilized dunes, washes, and valley flats. In Nevada, this species depends on sand dunes or deep sands and only appears in years with optimal rainfall and temperature patterns. Wind-loving buckwheat may also be present in the vicinity of Rye Patch Reservoir, but has not been noted in the floristic surveys of the park available to date.

## **3.5.4. Battle Mountain Community Pasture**

### **3.5.4.1. Habitat Types in the Battle Mountain Community Pasture**

Since 1951, PCWCD has leased the Battle Mountain Community Pasture for the purpose of grazing livestock belonging to Humboldt Project irrigators. The removal of water rights from this land and seasonal grazing has resulted in the current baseline habitat condition of the Community Pasture. The area is predominantly lowland desert scrub (greasewood rabbitbrush) and almost half grassland (bluejoint hay meadow with some saltgrass), with increasing exotic invasive plant cover (tamarisk and other species) and has less than 5 percent riparian (willow and scattered cottonwood), emergent wetland (bulrush) and open water habitat (Bradley 1991, 2004). The lowland riparian habitat along the Humboldt River and meander scars and oxbows of historic former channels probably reached their lowest cover and functional values in 1992, at the end of a major drought (Bradley 1991, 2004).

PCWCD employs a full-time resident property manager and seasonal help to manage the Community Pasture and livestock. Grazing on the pasture occurs during the summer and fall months, allowing PCWCD farmers to maximize the irrigable acreage on their farmland without having to dedicate a portion of water to livestock grazing. In winter, the livestock are brought back to the Lovelock area.

A vegetation inventory of the Battle Mountain Community Pasture was conducted in 1985 as part of an NDOW report entitled “*Wildlife and Wildlife Habitats Associated with the Humboldt River and Its Major Tributaries – Humboldt River – Community Pasture*” for Reclamation and the PCWCD (Bradley 1991). Interpretation of aerial photographs in 1985 by the University of Utah Research Institute’s Center for Remote Sensing and Cartography (CRSC) resulted in vegetation mapping for a total of 25,985 acres of Community Pasture land. Eleven dominant cover types and 36 mixes of those types were identified. Percentage of vegetation type cover as mapped by CRSC on Community Pasture lands along the

Humboldt River included approximately 44 percent greasewood rabbitbrush, 40 percent bluejoint hay meadow, 7 percent saltgrass, 3 percent annual weeds, 2 percent bulrush, 1.3 percent open water, and 0.7 percent willow. Major vegetation communities or habitat types are shown in **Figure 3.3**.

However, the NDOW report estimated that almost half of the hay meadow mapped based on aerial photograph interpretation were actually stands of Great Basin wildrye (*Elmus cinerius*), and invasive annual weeds, including thistles (*Centaurea* spp.), cocklebur (*Xanthium* spp.), and dock (*Rumex* spp.). These areas typically have lower water tables, less cover, and lower habitat values than moist or wet hay meadows, especially when the hay meadows are located near water, alkali flats, emergent wetland and riparian habitats. Therefore, alfalfa hay meadow cover is actually just under 20 percent. The report also indicated that by 1990 much of the remnant (~ 1 percent of total land cover) willow vegetation mapped in 1985 had been lost. Lowered water tables, intensive growing season grazing, and herbicide application were cited as possible reasons for recent losses of the willow cover.

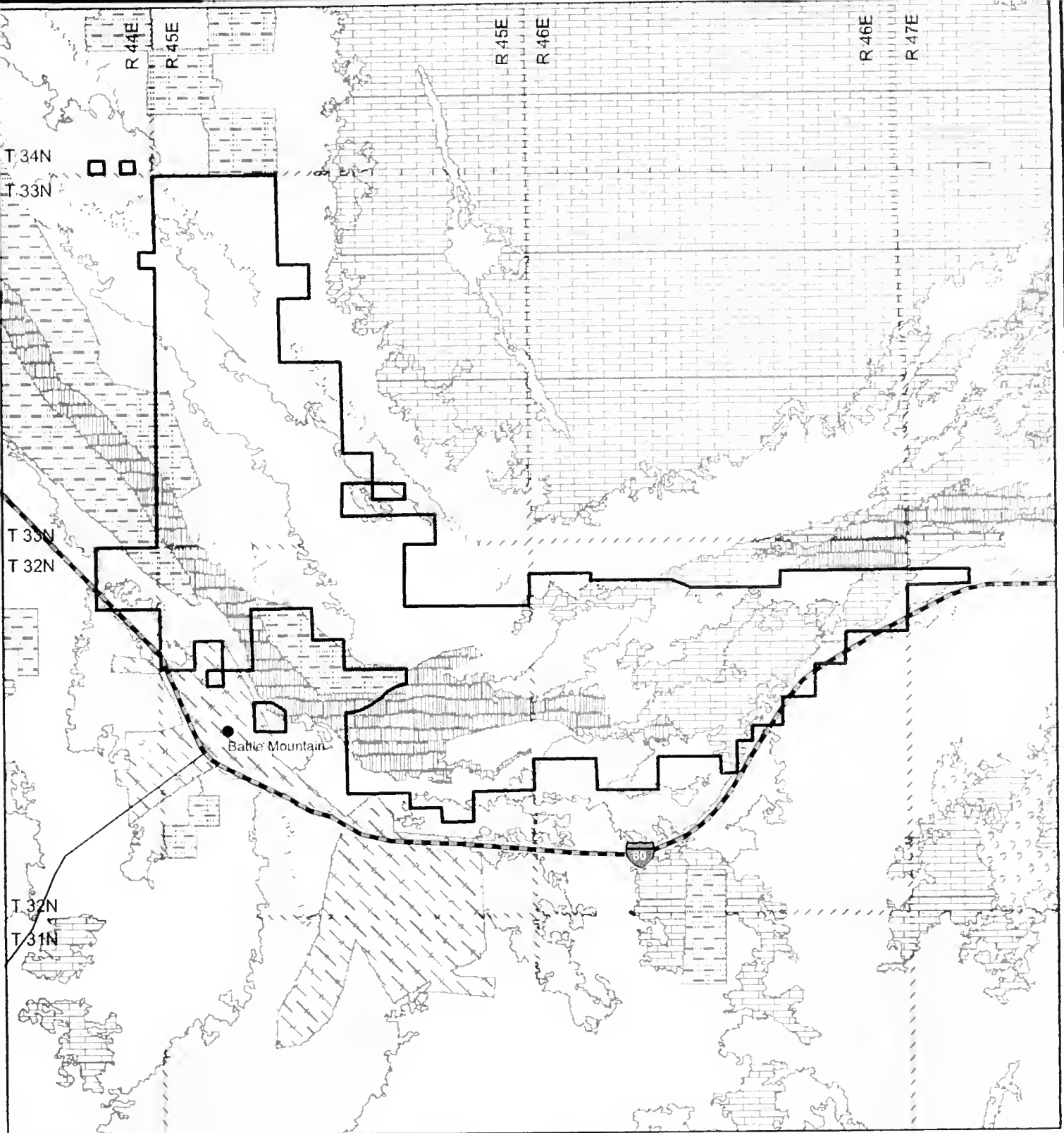
Since 1985, there has been a combination of an underestimation of weed cover and an increase in invasive and noxious weed species, including cocklebur, cheatgrass, Russian knapweed, and Russian thistle (Bradley 2004).

In 1995, the PCWCD hired a rangeland consultant to develop an ongoing grazing management plan for the Community Pasture. Since the adoption of that plan, the District has improved the condition of the Community Pasture as pasturage and there has been some limited improvement of riparian and wetland habitat. A survey of these non-irrigated range lands (converted historic lowland riparian and wetlands) in 1998 (after a series of wet years aided recovery) by the rangeland consultant showed more than half to be in good rangeland condition, a third to be in fair rangeland condition, and the remaining 5 percent to have been disturbed by wildfire. The carrying capacity of the Community Pasture peaked in 1995-1998, exceeding 52,000 Animal Unit Months (AUM). An AUM is the measure of one animal's forage needs over 1 month's time. To endeavor to achieve sustainability of the Community Pasture, the District has stocked at the Community Pasture at a rate well below the range consultant's estimated carrying capacity. This also helps to sustain some of the wildlife habitat and opportunities for hunting and fishing.

The continued management of seasonal grazing of the Community Pasture by PCWCD below carrying capacity under a regularly-updated grazing management plan with surveys of rangeland condition will assure the long-term sustainability of the pasture. Continued implementation of the grazing management plan, in combination with an integrated invasive plant management plan to halt the spread of tamarisk, cheatgrass, and noxious weeds such as Russian knapweed and thistle, would maintain or improve the condition of the pasturage, native vegetation communities, and wildlife habitat.

#### **3.5.4.2. Wildlife Resources in the Battle Mountain Community Pasture**

Wildlife surveys conducted by NDOW in 1987 recorded 32 bird and seven mammal species (**Table 3.5-3**). This list does not represent the full range of wildlife present on the Community Pasture, but may indicate the more common bird and mammal species observed. Reptiles, amphibians, and fish were not surveyed. Historically, the marshes, riparian scrub-forest, and meadows of the Community Pasture supported larger numbers of the waterfowl, wading birds, shorebirds, songbirds, and wetland riparian mammals, (e.g., mink, muskrat, and beaver) listed in **Table 3.5-3**, as well as many other species. Common historic wildlife not currently observed include bitterns, rails, wrens, and otters, which occupied the dense emergent wetlands and open waters of old meander scars and oxbows of the former marshes. **Appendix I** provides a more comprehensive list of wildlife species observed within the entire Humboldt River system, some of which could be expected to occur on the Community Pasture.



- City
- Interstate
- Major Road
- ▭ Humboldt Project Area

#### GAP Vegetation

- ▨ Pinyon - Juniper
- ▨ Greasewood
- ▨ Sagebrush
- ▨ Sagebrush/Perennial Grass
- ▨ Mountain Sagebrush

- ▨ Grassland
- ▨ Agriculture
- ▨ Desert Riparian
- ▨ Urban
- ▨ Alkali Desert Scrub

#### Humboldt Project Conveyance EIS

Figure 3.3: Habitat Types of Battle Mountain Community Pasture Area

Date: 10.11.04 file: HAB\_001-06R Author: djb



Universal Transverse Mercator  
NAD 1983  
Zone 11 meters



GAP Vegetation data obtained from USGS Gap Analysis Program

DRAFT

For Internal Use Only

Base Map: USDA/NRCS Enhanced DRG GenTiff 30x30 1:100,000 1997

**TABLE 3.5-3 SPECIES OF WILDLIFE OBSERVED DURING AND INCIDENTAL TO SURVEYS CONDUCTED ON RECLAMATION COMMUNITY PASTURE LANDS, HUMBOLDT RIVER, 1987**

<b>Birds</b>	
Pied-billed Grebe	Long-billed Dowitcher
Great Blue Heron	Horned Lark
Cattle Egret	Barn Swallow
Snowy Egret	Black-billed Magpie
Black-crowned Night Heron	Sage Thrasher
White-faced Ibis	Loggerhead Shrike
Mallard	Yellow Warbler
Gadwall	Yellow-breasted Chat
Northern Pintail	Western Meadowlark
Green-winged Teal	Red-winged Blackbird
Cinnamon Teal	Brewer's Blackbird
Northern Shoveler	Savannah Sparrow
American Coot	Brewer's Sparrow
Killdeer	Lazuli Bunting
Spotted Sandpiper	Song Sparrow
Willet	Long-billed Curlew
<b>Mammals</b>	
Mink	Muskrat
Coyote	Beaver
Least Chipmunk	Mule Deer
Deer Mouse	
Source: Peter Vincent Bradley, Nevada Dept. of Wildlife, 1987, Wildlife and Wildlife Habitats Associated with the Humboldt River and its Major Tributaries, Humboldt River Community Pasture.	

In 1997, 43 species of birds were observed between Dunphy (where I-80 crosses the Humboldt River 30 miles upstream of Battle Mountain) and Argenta, and 65 species between Argenta and Mote, which is located approximately 10 miles downriver from Battle Mountain. Argenta is located at the southeastern end of the Battle Mountain Community Pasture. Among the more common or notable species of birds observed along the Humboldt River in this region not included in the above table were greater sandhill crane, Swainson's hawk, black-necked stilt, Wilson's phalarope, mourning dove, common nighthawk, western kingbird, northern rough-winged and cliff swallows, common raven, marsh wren, black headed grosbeak, and Bullock's oriole. Numbers of white-faced ibis and beaver in the region noticeably increased in 1997, probably because of the higher flows and some reestablishment of woody riparian vegetation in select reaches.

There are several native and introduced species of warm-water fish in the Humboldt River and Rock Creek at the Battle Mountain Community Pasture. Species known to be present include bullhead, green sunfish, smallmouth bass, carp, and channel catfish (Bradley 2004, Teske 2004).

#### **3.5.4.3. Sensitive Species in the Battle Mountain Community Pasture**

The bald eagle is an occasional winter resident of the Humboldt River in the vicinity of the Community Pasture. There are no other federal listed species in the project area. The nearest protected nesting sites are located a considerable distance away in the Washoe Valley, which is between Reno and Carson City.

During wet years, the old meander scars and oxbows of the Humboldt River and Rock Creek fill with water and create habitat favorable for wading birds. Potential visitors to the area include the white-faced ibis, least bittern, long-billed curlew, other fish-eating water birds such as the black tern, and other water birds that are species of concern. Regionally, these migratory species are present in much higher numbers in the Lahontan Valley (e.g. Fallon and Stillwater National Wildlife Refuge, and Carson Sink) and in Humboldt Sink when conditions are favorable. These habitats could also support most of the same species of bats, birds of prey and water birds, pygmy rabbit, and sage grouse listed for the Humboldt Sink and Rye Patch Reservoir that are species of concern, as well as local populations of ferruginous hawk and the Nevada viceroy (USFWS 2003, see **Appendix II**).

There are no known threatened or endangered plant species found within the Battle Mountain Community Pasture. One USFWS Species of Concern, wind-loving buckwheat, may occur in the project area. Wind-loving buckwheat is a high-elevation perennial that occurs on dry, exposed, relatively barren and undisturbed ridges. It is described in greater detail in an earlier section of this chapter.

Several species of spring snails are endemic to thermal waters of Nevada. There is a hot spring at Stony Point that flows directly into Rock Creek in the north-central portion of the lands that would be transferred to NDOW. This hot spring has not been surveyed for spring snails. Because Stony Point Hot Spring is not isolated and does flow into Rock Creek, this spring is probably below 35 to 40 degrees Celsius, and could support spring snails. Surveys have found spring snails on other springs along Rock Creek in the Battle Mountain area upstream of the proposed transfer lands (Sada 2004).

### **3.5.5. Environmental Impact**

#### **3.5.5.1. Proposed Action / Preferred Alternative**

Potential biological resource impacts that could occur as a result of the Proposed Action, including potential impacts on vegetation and wildlife habitat and special-status species, are described in the following sections for each Project area.

##### **3.5.5.1.1. Humboldt Sink**

The Proposed Action would transfer ownership of a checkerboard pattern of approximately 18,180 acres of land from Reclamation to the State of Nevada currently in the WMA and managed by NDOW. In addition, the acreage transferring to the State of Nevada in the Humboldt Sink would include approximately 14,470 acres outside of the current WMA boundaries. Pershing County would obtain approximately 990 acres of this acreage, which includes disturbed, weedy greasewood and alkali flat habitat in the northeastern portion of the project area bordering Derby Field to the north and east.

Because there would be no substantial change in overall resource management by NDOW or Pershing County, the title transfer would not result in substantial adverse effects to vegetation or fish and wildlife resources in the Humboldt Sink Project area.

Under both the Proposed and No Action Alternatives, NDOW plans to expand efforts to control invasive species such as tamarisk and perennial pepperweed by using integrated control methods, including biological control (Chinese leaf beetle), mechanical control along ditches, targeted use of herbicides, and potential use of controlled burns. With no change in land use and potentially improved management, the title transfer would have no adverse affect, and consolidation of state ownership of lands within the Humboldt Sink under NDOW management would have a potential beneficial affect on existing vegetation communities or wildlife habitat within the Humboldt WMA.

Natural cycles in rainfall, runoff, and flooding are the primary determining factor in biological productivity of the Humboldt WMA from year to year, with wetter years and extensive shallow flooding creating optimal conditions for migratory wildlife (Neel 2004). NDOW has no Project water rights or control over the amount of water entering the Humboldt WMA, however, NDOW has the potential to improve the management of the water it does receive subsequent to the title transfer. Under the Proposed Action, PCWCD would continue to manage the delivery of irrigation system tailwater flows and Humboldt River flood flows to NDOW to help maintain open water, marsh, seasonal wetland, and riparian wildlife habitats in the Humboldt Sink. In drier years, most water would be directed to Toulon Lake via the Toulon Drain to maintain the open water and wetland habitats in this smaller lake. Some tailwater would still flood Humboldt Lake, which would dry back first. In wetter years, Humboldt Lake would also be flooded via the Army Drain and main channel of the Humboldt River. NDOW plans to add a second dike to Toulon Lake across the narrow point and enhance habitat in the upper third of the lake (Hunt 2004). The cooperative agreement to better manage tailwater, installation of the dike, and habitat enhancements considered by NDOW would have a beneficial effect on management of water levels and wildlife habitat.

Under both the Proposed Action and No Action Alternatives, NDOW plans to continue using their remaining Title 28 Reclamation Recreation Management Act cost-sharing monies for improvements to existing levee roads to improve wet season access to recreation sites, improvements to an existing campground and boat ramp on the west side of Humboldt Lake, and adding a public wildlife viewing platform. These capital improvements involve existing facilities or clear areas with little or no disturbance to natural vegetation or wildlife habitat. Therefore construction of these recreational improvements will benefit the public with no impact to biological resources. Under the Proposed Action, the State would no longer be eligible to receive new Title 28 monies for future capital improvements, but may be eligible to receive additional state funding under existing natural resources programs such as the 2002 Question 1 bond for conservation and resource protection.

Pershing County has not developed a specific airfield expansion plan for Derby Airfield, but proposes to add hangers and storage facilities if Project lands are transferred to the county. This expansion would occur on land that is already cleared and mowed as runway clear zones. Expansion of Derby Airfield would not result in any substantial impact to natural vegetative communities or wildlife habitat.

### ***Impacts to Special Status Species***

Wind-loving buckwheat is unlikely to occur in the Humboldt Sink because it is a high-elevation species occurring on barren, exposed ridges and knolls, including the mountains east of Humboldt Sink. Nevada dune beardtongue and Nevada oryctes, are found in deep sandy soils or sand dunes and could be present in the sand dune ridges along the mouth of the Humboldt River within the Sink. Lahontan milkvetch and Lahontan beardtongue occur along washes, gullies, alluvium, canyon floors, and playa edges (the former in more alkaline areas and the latter in carbonate substrates). Both species may occur in locally suitable habitat within the Humboldt Sink. However, no substantial change in management of the Humboldt WMA or alterations in drainage patterns or ground disturbances are proposed that would impact these plant species of concern.

Bald eagles over-winter in the Humboldt Sink, with greatest numbers occurring in flood years that support large numbers of warm-water fish. The nearest known nesting area is in the Washoe Valley a considerable distance southwest of the project area. Future proposed management by NDOW would result in some improvement of habitat within the WMA, which could provide a minor benefit to bald eagles, which are otherwise unlikely to be adversely affected by the proposed transfer (Mellison 2004).



Presence and abundance of the American white pelican, a sensitive species, depends on flooding of the Humboldt Sink and the warm-water fish that accompany such events, which depends primarily on climatic cycles. Improvements in NDOW's ability to manage tailwater and flood water could be beneficial to pelicans by having some improved ability to manage water depths in Foulon and, to a lesser extent, Humboldt Lake. These water management improvements, combined with habitat enhancement projects and efforts to control exotic invasive plants, should result in some potential improvement of habitat conditions for wildlife species of concern, including bald eagle, white pelican, white-faced ibis, least bittern, log-billed curlew, and other migratory bat and water bird species of concern listed by the USFWS that may occur in the Humboldt Sink area (**Appendix II**).

### **3.5.5.1.2. Rye Patch Reservoir**

Under the Proposed Action, PCWCD would receive all withdrawn lands below the reservoir high water mark and all acquired lands above and below the high-water mark. PCWCD would continue to operate Rye Patch Dam and Reservoir in a manner similar to that of its current agreement with Reclamation. State Parks would receive all withdrawn lands above the reservoir high-water mark and continue to operate and maintain the state recreation area facilities surrounding Rye Patch Reservoir.

PCWCD has agreed to manage and operate Rye Patch Reservoir to provide a minimum operational pool of 3,000 acre-feet of carryover irrigation water storage from year to year. To assure this minimum operational carryover pool, PCWCD would reduce or cease all releases if the reservoir approaches or reaches a minimum of 3,000 acre-feet of storage, which should only occur in multiple drought years. The 3,000 acre-feet volume is sufficient to maintain a viable portion of the adult warm-water game fish population. The PCWCD will manage the reservoir to maintain a higher operational carryover storage pool from year to year when conditions are favorable to provide even better survival of adult and juvenile warm-water fish populations. The historic average storage at the end of the season or average minimum operational carryover pool is 74,370 acre-feet, and the median carryover pool is 53,178 acre-feet over 68 years of record (Hodges 2004). Over this period of record, the minimum carryover pool was 10,000 acre-feet or greater 80 percent of the time, a volume that would also assure the survival of a reasonable number of juvenile fish and reduce the amount of stocking needed to maintain the sport fishery. NDOW will continue to monitor the fishery and stock Rye Patch Reservoir and the Humboldt River as needed. This beneficial change in management of minimum carryover storage should have no adverse effect on the sport fishery at Rye Patch Reservoir.

Because there are no anticipated changes in overall management of lands and waters by State Parks and PCWCD, the title transfer would not result in substantial adverse effects to vegetation, or fish and wildlife resources in the Rye Patch Reservoir project area.

#### ***Impacts to Special Status Species***

PCWCD and State Parks have not proposed any changes in operations, such as increases in maximum reservoir levels or land acquisition and recreational improvements, which would directly impact the population of Nevada oryctes, just north of the park. Any minor secondary effects of activities, such as invasive plant control or development of a primitive campground at Callahan Bridge, would not extend upriver to the location of these plants. No other sensitive plants listed by the USFWS as species of concern occur in the Rye Patch Reservoir area.

Bald eagles visit or over-winter at Rye Patch Reservoir in limited numbers. Maintenance of the agreed-upon 3,000 acre-foot minimum operational carryover storage to assure the survival of a warm-water fishery and typically operating with a minimum carryover storage above 10,000 acre-foot in most years will maintain a healthier fishery and potentially benefit bald eagles. Therefore, the title transfer is

unlikely to adversely affect and may have a minor beneficial affect on this federally threatened species (Mellison 2004).

The Nevada viceroi, a butterfly species of concern listed with the NvNIIP, occurs in aspen and willow habitat in the mountains west of Rye Patch Reservoir (NvNIIP 2004). There is no habitat for this species in the Rye Patch Reservoir area. Therefore this viceroi would be unaffected by the title transfer.

A recent BLM study identified a sage grouse lek (traditional display ground) in upland habitat on lands managed by BLM west of I-80 (BLM 2004). Replacement habitat has been proposed by BLM in a more suitable upland habitat west of I-80 near the northeastern end of Rye Patch Reservoir. The area is adjacent to project lands. The potential for sage grouse to occur within the park is low because of a lack of hilly or mountainous upland scrub habitat with larger vegetation for cover. Because the title transfer is an administrative action and no changes in operation and maintenance of the Rye Patch Dam and Reservoir are proposed by PCWCD or State Parks the Proposed Action is unlikely to have a direct effect on nearby sage grouse populations.

When the lowland riparian and wetland area below Callahan Bridge at the north end of Rye Patch Reservoir floods in wet years, it creates habitat favorable for wading birds, including the white-faced ibis, least bittern, and other fish-eating water birds such as the black tern. On a regional basis, these migratory species are present in much higher numbers in the Lahontan Valley (e.g. Fallon and Stillwater NWR, Carson Sink) and in Humboldt Sink when conditions are favorable. However, upper Rye Patch can provide locally important habitat, especially when conditions are different at these other locations (Neel 2004).

Other species of concern, such as the pygmy rabbit, several species of bats, birds of prey, and the above-mentioned water birds listed by the USFWS (**Appendix II**) as potentially present at Rye Patch Reservoir should be unaffected by the title transfer, as no change in habitat conditions is expected. Management efforts by PCWCD and State Parks to control the spread of invasive plants, which would recover some riparian and wetland habitat, could incrementally improve habitat for some of these species.

### **3.5.5.1.3. Battle Mountain Community Pasture**

Under the Proposed Action, PCWCD would receive title to approximately 22,500 acres of acquired lands within the Battle Mountain Community Pasture, which would continue to be managed and operated for grazing purposes. PCWCD will continue to employ a full-time resident property manager and seasonal help to care for the property and livestock. PCWCD will continue to allow public use of the pasture lands, including hunting and fishing, when such activities do not directly conflict with livestock operations.

The State of Nevada would receive title to approximately 5,850 acres of acquired land in the Community Pasture. These lands are proposed for management by NDOW for the purpose of wetland development (Hunt 2004). NDOW has a goal to develop up to 2,000 acres of wetlands and lowland riparian habitat, but specific management plans including water sources, funding, and vector control have not been finalized.

The State has obtained 1,680 acre-feet of winter or “ice” water rights for wetland restoration. Once needed, this water could be diverted from the Humboldt River at Slaven Diversion Dam, and the State would take over responsibility for operation and maintenance of the dam. NDOW is also attempting to acquire other water rights, including potential purchase of the Licking Ranch (900 acre-feet). The State is also investigating the potential to obtain the Lander County rights to the old Rock Creek Dam (3,000 acre-feet). Another potential water source could be mine dewatering water (e.g. Newmont Mining)

Depending on the economies of mining and the rate at which the deposit is mined, this water source would not be permanent, but could “jump start” some restoration efforts while more permanent water rights are being obtained (Hunt 2004). However, any potential water acquisition above the 1,680 acre-feet has to be considered speculative at this time.

The restoration of a portion of emergent wetland, open-water, and riparian habitat would include removing existing non-native vegetation, raising the water table, and seasonally or permanently flooding low-lying lands along Rock Creek and the historic channels of the Humboldt River, planting new native riparian and wetland vegetation, and using exclusion protective fencing. These enhancements to the baseline conditions would have a positive effect on the regional vegetation, encouraging and supporting native vegetation in a more naturalized hydrologic regime and reducing the impact of invasive plant species on habitat value.

This restoration would result in the stabilization of stream banks, reduced soil erosion, higher water tables, decreased salinities, and more soil water retention capabilities. If portions of State land managed by NDOW continue to be grazed or are used to grow pasturage compatible with wildlife management area goals and objectives, the agricultural productivity of these lands should be high. This potential restoration of a mosaic of riparian, wetland, open-water, and upland habitat would benefit a wide variety of wildlife species, including many of the species of concern listed by the NNHP and USFWS as potentially occurring in the Battle Mountain Community Pasture and other species that occur in low numbers or historically occurred in the region. Restoration of these habitats could also attract hunters, fishermen, wildlife watchers, and other recreational users and tourists, potentially providing added economic benefit and diversity to the region. These biological resource and recreational benefits would be directly related to the ability of the State to obtain the water rights and successfully implement the Conceptual Management Plan (CMP) for wetland and riparian restoration.

Under the Proposed Action, Lander County would receive title to approximately 1,100 acres of acquired Community Pasture lands. The proposed expansion of the Livestock Events Center and the use of PCWCD's maintenance shop would occur on lands that are already developed as asphalt and turf grass, and support little or no natural habitat. No impacts to vegetation and wildlife resources would occur as a result of the title transfer and proposed continued use and expansion of the facilities.

The parcel proposed by Lander County for future industrial development is located behind dikes and is either mowed or poor-quality pastureland with scattered greasewood and saltbush scrub. This parcel is not located in prime agricultural land or near sensitive lowland riparian habitat. As such, future industrial development of the area would not result in any significant direct adverse impact on important native vegetation communities or associated wildlife habitat. The county and State should review future proposed industrial development to assure that there would be no adverse effects to groundwater quantity and quality that could impact the Humboldt River and either no direct discharges to the Humboldt River or limited discharges that meet federal and State requirements. Provided that future industrial development did not affect the quality of water in the Humboldt River and associated lowland riparian habitats, no adverse secondary or indirect impacts of industrial development of this parcel to biological resources is anticipated.

Development of a low-maintenance, primitive day-use recreational area and parking lot adjacent to State Route 806 and the Humboldt River south of White Bridge has the potential to remove lowland riparian vegetation, including willows, wild rose, and other soft shrub and woody scrub riparian vegetation. The parking lot would be sited in an open area on high ground adjacent the highway and set back from the river terrace that has a minimum amount of woody and shrubby vegetation. The primitive day-use area adjacent to the parking lot would be similarly sited with minor improvements. The parking lot and small day-use area will be fenced and gated to allow foot traffic only downriver. Conversations with the

PCWCD, Lander County officials, and NDOW confirm that the parking lot and minimal adjacent facilities would be sited and developed as described above.

The dedicated access easement along the river would be maintained in its natural state, without improvements. No motorized vehicles or horses would be permitted. Pets would be required to be kept on a leash at all times. No overnight facilities or uses would be allowed in the parking area or along the easement. The county would be responsible for regularly patrolling the easement to assure compliance and remove trash and refuse. The PCWCD would continue to graze Community Pasture lands within the easement.

As proposed, the small parking lot and primitive recreation area and access easement along the Humboldt River would not have an adverse effect on lowland riparian vegetation and wildlife habitat. The easement provides an official dedication of an area unofficially used by hunters, fishermen, and other recreational users to access the Humboldt River with PCWCD permission, and establishes Lander County as the official party responsible for managing this easement. Potential secondary effects to biological resources resulting from increased public use of the river corridor resulting from the establishment of an official parking lot and public access easement would be offset by improved management by the county, including controlled access gates, signage, and regular patrols.

The parking and primitive recreation area and access easement along the river would provide public access to the river and riparian corridor and offer hiking, hunting, fishing, and wildlife viewing opportunities. The development of the proposed parking lot, primitive day-use area, river access easement, and future enlargement of the Livestock Events Center at the County Fairgrounds following the terms outlined in the Memorandum of Agreement between Lander County and PCWCD would result in increased recreational opportunities in Lander County without significant adverse impacts on vegetation, fish, and wildlife resources.

### ***Impacts to Special Status Species***

Wind-loving buckwheat is present in the mountains north and possibly southeast of Battle Mountain, but is unlikely to occur in the Community Pasture because it is a high-elevation species found on barren, exposed ridges and knolls. Lahontan milkvetch and Lahontan beardtongue occur along washes, gullies, alluvium, canyon floors, and playa edges; habitats not found within the Battle Mountain Community Pasture. No substantial change in management of the Community Pasture is proposed that would adversely affect plant communities, including plant species of concern in the region.

The bald eagle is an occasional winter resident of the Humboldt River in the vicinity of the Community Pasture. No other federal listed species occur in the project area. The nearest protected nesting sites are located a considerable distance away in the Washoe Valley. Proposed improvements by NDOW on lands transferred to the State, including potential restoration of riparian, emergent wetland and open water habitats and management of these lands as a wildlife management area, would provide some net benefit for this species. Therefore, the continued implementation of the grazing management plan for the Community Pasture by PCWCD, proposed management and habitat improvements on the State portion by NDOW, and minor capital improvements and recreational use on lands transferred to Lander County would not adversely affect the bald eagle (Mellison 2004).

The Nevada viceroy occurs in aspen and willow habitat in the mountains adjacent to Battle Mountain Community Pasture (NvNHP 2004). No habitat exists for this species on title transfer lands in the Community Pasture area. Therefore, this viceroy would be unaffected.

Sage grouse are likely to be present in sagebrush and sagebrush perennial grassland habitats in the rugged mountains north and southeast of Battle Mountain. Grouse are not likely to utilize the lowland habitats along the Humboldt River, Reese River, Rock Creek, and McIntyre Slough in or near the Community Pasture. Therefore, transfer of Battle Mountain Community Pasture lands would have no direct effect on nearby sage grouse populations.

When the old meander scars and oxbows of the Humboldt River and Rock Creek fill with water in wet years, they create habitat favorable for wading birds, including the white-faced ibis, least bittern, long-billed curlew, fish-eating water birds such as the black tern, and other water birds that are species of concern. On a regional basis, these migratory species are present in much higher numbers in the Carson and Humboldt Sinks when conditions are favorable. However, the State portion of the Community Pasture, if restored to lowland riparian, emergent wetland and open-water habitat, could benefit these species by providing locally important habitat in the future.

Other species of concern, such as the pygmy rabbit, several species of bats, birds of prey including the ferruginous hawk, and the above-mentioned water birds, that are listed by the USFWS (**Appendix II**) as potentially present in the vicinity of the Community Pasture should be unaffected by the title transfer, as no adverse change in habitat conditions is expected. Management efforts by NDOW that may control the spread of invasive plants and potentially restore some riparian, wetland, and open-water habitat would result in improved habitat for many of these species.

### **3.5.5.2. No Action Alternative**

Under the No Action Alternative, biological resources within the Project area would not change. Lands proposed for transfer to NDOW for restoration of lowland riparian habitat and the creation restoration of wetlands in the Battle Mountain Community Pasture would not occur. Proposed recreational enhancements by Lander County, including the development of a primitive day-use and parking area adjacent to the Humboldt River, a dedicated easement along the river, and expansion of the livestock events center would not occur. Reclamation lands within the Humboldt Sink and in the Rye Patch Reservoir area would not be transferred to the State.

If the title transfer were not to occur, Reclamation may choose to prepare a RMP to guide future decisions for Project lands. The RMP could incorporate an updated grazing management plan for lands leased for grazing, and may include a more comprehensive blueprint for managing natural resources on Humboldt Project lands, including vegetation and wildlife. Potential future federal funding for resource management enhancements and improvements may be available and may result in positive effects for fish, wildlife, and vegetation. However, federal monies for the preparation and implementation of an RMP are subject to congressional funding (USBR 2003a).

## **3.6. HAZARDOUS MATERIALS AND SAFETY**

### **3.6.1. Affected Environment**

#### **3.6.1.1. Hazardous Materials**

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires “identification of contaminated property based on an investigation of the real property to determine or discover the obviousness of the presence or likely presence of a release or threatened release of any hazardous substance on the real property.”

Historically, Reclamation, PCWCD, and State of Nevada employees have conducted routine environmental site inspections of the Humboldt Project lands as part of normal operation and maintenance. State employees managing the Humboldt Sink and Rye Patch Reservoir lands, and Mr. Jerry Chapin, PCWCD Pasture Manager, routinely inspect project lands for any unlawful disposal of solid and hazardous wastes.

Tetra Tech, Inc (Tetra Tech) performed a Phase I Environmental Site Assessment in August 2004. The Phase I included a site reconnaissance, interviews with local officials, and a review of regulatory agency information for project lands and surrounding sites. Project lands and adjacent properties within a reasonable distance were inspected to identify if actual or potential releases of hazardous substance have occurred or have the potential to affect lands to be transferred. No physical sampling or analyses of any media were performed during the Phase I ESA. The following sections are incorporated by reference from the Tetra Tech report *Final Phase I Environmental Site Assessment, Humboldt Project Lands, Nevada, September 2004*

#### **3.6.1.1.1. Humboldt Sink**

An aboveground storage tank (AST) was observed at Derby Airfield. The tank is mostly empty and has not been used since the late 1940s (Hodges 2004). The AST is approximately 35 feet in diameter and 35 feet long, with a capacity of approximately 30,000 gallons. Aviation fuel was stored in the tank and was dispensed from a pumping station, through underground pipelines, to valve standpipes on the tarmac. The tank and pump station were observed, but it is not evident where the underground pipelines or standpipes used to be. A sample of the residue was reportedly collected during the last couple of years and was found to contain only heavy petroleum hydrocarbons that may not be of environmental concern.

Underground storage tanks (UST) were located on the property in the 1980s and were used to fuel small aircraft. In 1984, a large flood washed out these USTs (Montrose 2004). Since then, an AST system was installed and is operating at the edge of the airport tarmac. This system appears to include a 3,000-gallon tank that is in good condition. No releases or evidence of spills were reported or observed. There are plan and budget for the Airport Board to replace the AST system with a new 12,000-gallon system that will be in full compliance with the fuel storage regulations.

There was one site identified in the regulatory database search as being located on project lands. A site owned by Helena Chemical Company was identified in the EPA Section 7 Tracking System database as a site that produces pesticides. As of the last report year, the permit for the facility was registered, but the site status was inactive. The report indicates that an inspection of the property was conducted in May 1997, and no violations were found. Based on these findings, there is no evidence that this site has any significant impacts on project lands.

Two sites on adjacent properties were identified during the Phase I ESA. The sites are former mining operations where elevated levels of heavy metals may have impacted project lands through groundwater migration. These sites are located more than 1 mile from project lands.

#### **3.6.1.1.2. Rye Patch Dam and Reservoir**

The rollup gates at Rye Patch dam are controlled by an electric motor that travels on a track from one gate to the next. The drive mechanisms contain gear boxes, each containing approximately 2 quarts of motor oil. No used or new motor oil is stored at the dam site. When the motor oil is changed, new oil is brought to the site, and used oil is disposed of off-site the day the work is performed. A small amount of motor oil for these gear boxes and other pump reservoirs is stored for immediate availability at the dam tender's

residence. No areas of environmental concern were noted.

A sump pump associated with the fish holding tanks contains an oil reservoir for lubrication. No environmental concerns were observed at this location.

The lift gates that control the subsurface flow beneath the dam are operated by four hydraulic lifts. These valves have a small hydraulic fluid reservoir (estimated to be 10 gallons) in the control room. According to the Tetra Tech report, no indication of spills or releases was observed.

Beneath the control room, the lift gates control the flow of water through the reservoir transfer release lines. One of the four lift gates contains a hydraulic leak that is captured and controlled by a trough and reservoir system. The gate appeared to be relatively clean, and was continuously monitored to maintain the leak-control system. No significant amounts of hydraulic fluids appear to be released to the environment.

The restroom and shower facilities maintained by State Parks have septic tanks that are either self-contained and must be pumped out or associated with leach fields. For those that require cleanout, State Parks has set up a sewage sludge dump in a low berm area. Although no sewage was observed during the field inspection on August 5, 2002, debris in the berm area suggested recent dumping in the area.

There is an AST near the State Park office and a residence at the east end of the dam. The AST is connected to a gasoline and diesel fueling station. This fueling station was reported to be in good operating condition with no signs of spill or releases. The fueling station is used by State Parks personnel and the dam tender only. There are no other fueling facilities around the Rye Patch Reservoir, and all recreational vehicles, including boats on the reservoir, bring their fuel supply with them from outside the park boundary.

Five sites on adjacent properties were identified as sites where hazardous substances are known to have been or may have been released, and may have impacted the subject property. These sites are located at least 1 mile from project lands.

#### **3.6.1.1.3. Battle Mountain Community Pasture**

There are many gravel pits within and adjacent to the Battle Mountain Community Pasture. Nearly all of the pasture land pits are no longer used for gravel production and are partially filled with water. In 1994, Reclamation collected water samples from abandoned gravel pit sites located on the Battle Mountain Community Pasture. Analyses performed in 1994 detected elevated levels of arsenic and mercury. These metals are normally not associated with quarry operations, and may be attributed to natural background levels. Total organic carbon was found in most of the samples at low levels. These organic levels could also reflect natural decay of organic material found in plant life. However, analysis for manufactured organics (e.g., fuel oils) was not performed (USBR 1994).

There are seven wells located throughout the Community Pasture. One of the wells is powered by detachable solar panels. The remaining six wells produce water from windmill power. Each of the six windmills connected to water wells contains a crankcase of gears that contains approximately 1 gallon of motor oil. There were no environmental issues observed at these locations.

The age of the Muleshoe Ranch barn and bunkhouse suggests that lead-based paint may have been used on them at some time. In addition, the age of the bunkhouse and the character of its ceiling and floor tiles indicate that the building may contain friable asbestos. The pasture manager's residence did not appear to have any environmental issues.

Within the unincorporated town of Battle Mountain, seven sites on properties adjacent to parcels to be transferred to Lander County were identified as sites where hazardous substances are known to have been released. These releases are primarily associated with gasoline stations with USTs. Based on the relative proximity of the sites to project lands and the potential impact of previous spills on groundwater, it is possible that one or more of these sites may impact project lands.

There is a fertilizer manufacturing plant approximately 1.2 mile northeast of the Community Pasture boundary in Section 35, Township 33 north, Range 45 east. The facility uses raw materials to produce fertilizer that is later mixed with diesel fuel to make blasting powder for nearby mining operations. While several local residents have reported noxious fumes emitting from the facility, no violations were identified during the regulatory review process.

### **3.6.1.2. Safety**

#### **3.6.1.2.1. Flood Hazards**

In the 1940s, the Humboldt Sink was withdrawn from the public domain because of flooding concerns related to operation of the Humboldt Project. The area is fed by both natural flow of the Humboldt River and the drain system carrying tailwater from the irrigated lands of the PCWCD and wastewater effluent from the City of Lovelock. In extremely wet years, the Humboldt Sink discharges to the Carson Sink via the Humboldt Slough. The levees in the Humboldt Sink area could be damaged during a major flood in the region.

Rye Patch Dam and the Pitt-Taylor Reservoirs prevent flooding below the Rye Patch Reservoir. The Pitt-Taylor Reservoirs are normally empty and available for storage during heavy runoff events. The Rye Patch Reservoir has a capacity of approximately 213,000 acre-feet, and has a maximum discharge from the dam's spillway of approximately 24,000 cubic feet per second, or about 1.2 acre-feet per second. The Pitt-Taylor Reservoirs have a combined storage capacity of 35,000 acre-feet. During periods of heavy flow in the Humboldt River, the reservoirs have a combined storage capacity of 248,000 acre-feet.

Battle Mountain Community Pasture has historically been prone to flooding. The Federal Emergency Management Agency (FEMA) has established a boundary for the 100-year floodplain. According to Ms. Debra Hinze, Town of Battle Mountain Building Department, the majority of the Battle Mountain Community Pasture near the Humboldt River is within the 100-year floodplain (Hinze 2004).

#### **3.6.1.2.2. Dam Safety**

As owner of the Rye Patch Dam, Reclamation is responsible for all safety-related activities at the dam. The 1978 Reclamation Safety of Dams Act (P.L. 95-578), the Reclamation Safety of Dams Act Amendments of 1984 (P.L. 98-404), the Federal Guidelines for Dam Safety and other laws, policies, and guidelines provide the authorization and guidance for Reclamation's Safety of Dams program.

Dam safety issues are generally associated with land use categories, the type of uses, and population. The four main categories used to assess safety issues are given below:

- Highly Sensitive Uses – Schools, hospitals, convalescent homes, daycare centers, and other areas where large numbers of people concentrate who, because of their age, physical condition, or large number may require assistance to evacuate.
- Urban Land Uses – Residential, commercial, and industrial areas.



- **Rural Land Uses** – Agricultural areas, farms, orchards, and nurseries.
- **Open Space** – Undeveloped areas, golf courses, beaches, and other areas.

The areas around the Rye Patch Dam fall within the rural and open space land use categories.

The West Humboldt Fault is approximately 0.9 mile east of the Rye Patch Dam. Estimates indicate that this fault has the capacity for producing an earthquake of a 7.5 magnitude. Other faults in the area of the dam are considered to be active, and can produce earthquakes with similar magnitudes. As a result, the risk of an earthquake from a fault in the area of the Rye Patch Dam within the next 10 years is considered high. (USBR 1993)

Because of the number of active faults, the U.S. Department of Interior performed a study in 1993 to determine the risk posed by the dam. This study estimated that 49 people would be at risk of drowning if the dam failed (USBR 1993). Additionally, the property damage associated with a dam failure was assessed to be approximately \$41.4 million. The main risk factor for a possible Rye Patch Dam failure was determined to be liquefaction of soil at the base of the dam during a major earthquake. (USBR 1993)

As a result of the above study, Reclamation and PCWCD constructed a concrete buttress wall in 1996 to strengthen the downstream portion of the dam foundation and minimize the risk of dam failure caused by liquefaction. The Rye Patch Dam improvement was designed to provide a safety factor of at least one in one million (USBR 1996). In addition to improving the stability of the dam, the Reclamation Dam Safety Program provides for regularly-scheduled examinations and inspections of the dam and appurtenant facilities. This program also provides notification procedures to minimize human risk associated with the dam failure. The dam operator lives in the dam tender house adjacent to the dam, and is available in case of an emergency. The operator is also responsible for inspecting the dam daily.

The Lower Pitt-Taylor and Upper Pitt-Taylor Reservoirs are not continuously used for water storage. They are used during years of high precipitation for additional storage, but most years they are dry or have minimal storage. If these reservoirs failed, their contents would flow directly into Rye Patch Reservoir.

The Upper Slaven Diversion Dam, near the community of Battle Mountain, is a small diversion dam. The dam is not used for water storage, and does not pose a risk to downstream structures or populations.

#### **3.6.1.2.3. Recreational Safety**

Potential water safety issues on lands proposed to be transferred include boating accidents or drowning incidents related to water-related activities, including fishing, boating, and swimming at the Rye Patch Reservoir and along the Humboldt River. Hunting and fishing opportunities in the Humboldt Sink are sporadic because of fluctuating water levels.

Hunting occurs in the Battle Mountain Community Pasture, and in designated areas surrounding the Rye Patch Reservoir and Humboldt Sink during established hunting seasons. In accordance with State law, hunting is not allowed within 1,000 yards of any developed facility, including campgrounds and boat docks (Orr 2004). A license is required to hunt within the State of Nevada. Anyone born after January 1, 1960, is required to provide proof of attendance of a Hunter Education class offered by NDOW.

### **3.6.2. Environmental Impacts**

### **3.6.2.1. Proposed Action/Preferred Alternative**

Under the Proposed Action, the use of hazardous materials within the project areas would be the same as that under the No Action Alternative. No increase in hazardous material use is expected. Operation and maintenance of the Humboldt Sink, the dams and reservoirs at Rye Patch, and grazing at the Community Pasture would remain unchanged. Entities receiving lands would be responsible for ensuring compliance for any hazardous release on their properties, and would be governed by applicable federal, state, and local laws and regulations. Potential safety issues related to flooding or recreational activities on lands to be transferred would be the same as those for the No Action Alternative.

Under the Proposed Action, title to the Rye Patch Dam would transfer to the PCWCD. Reclamation would no longer have the responsibility for activities related to their internal Safety of Dams Program. The dam safety regulatory responsibility would formally transfer to the State of Nevada, and the dam safety ownership responsibilities would transfer to PCWCD. Liability for the structure and its operation would become the sole responsibility of the District.

Prior to title transfer, Reclamation would meet with the State Engineers Office and PCWCD to help facilitate an effective transfer of knowledge and responsibilities. Copies of all documents related to dam safety necessary for PCWCD and the State to assume their roles as owners and regulators of the facility would be made available before title transfer. Reclamation would meet with the parties preceding title transfer to provide a final summary of all dam safety issues and recommendations. At the completion of title transfer, PCWCD would assume responsibility for addressing all future dam safety issues. The State of Nevada would be responsible for ensuring that the dam is in conformance with state dam safety regulations.

### **3.6.2.2. No Action Alternative**

Under the No Action Alternative, hazardous material use and public safety issues would remain unchanged. Reclamation would be required to perform safety inspections of Rye Patch Dam and prepare Comprehensive Facility Reviews on a bi-annual basis. In addition, Reclamation would be required to update the Standing Operating Procedure Emergency Action Plan in compliance with the Safety of Dams Program.

## **3.7. RECREATION**

### **3.7.1. Affected Environment**

#### **3.7.1.1. Humboldt Sink**

Because of its remote location and lack of permanent resource staffing, management activities in the Humboldt Sink have been sporadic over the years. NDOI has developed a CMP to guide the long-term planning of the Humboldt Sink WMA (Bull and Richards 2003). Under optimal weather conditions (e.g., years with abundant water), the Humboldt WMA is popular for fishing, waterfowl and upland game bird hunting, as well as substantial “nonconsumptive” uses, such as wildlife viewing, photography, hiking, education, and scientific study (DCNR 2002). While no specific public use data is available for the Humboldt WMA, the Nevada Natural Resources Status Report indicates that the average annual “use days” for other WMAs range from a high of 47,000 for Mason Valley, located approximately 75 miles southeast of Reno, to a low of 1,800 for the Key Pittman WMA in southeastern Nevada (DCNR 2002).

Under optimal hydrologic conditions, waterfowl hunting dominates recreational activities at Humboldt WMA, with ducks being the primary waterfowl hunted (more than 99 percent). The majority of hunters

utilizing the Humboldt WMA reside in Washoe County (77 percent) with others coming from Pershing (7 percent), Lyon (6 percent), Humboldt (5 percent), and Nye (4 percent) Counties. Non-residents of the preceding counties make up the balance (1 percent) (Bull and Richards 2003).

Hunting for upland birds at Humboldt WMA is limited. While there are populations of ring-necked pheasant and California quail, access is limited because of the nearly impenetrable stands of tamarisk, an invasive species. Fish may be abundant during wet years, but because of the wide fluctuation of water levels, there is no long-term fishery in the Humboldt WMA. During extended dry seasons, most lakebeds in the Humboldt Sink are dry.

The CMP for the Humboldt WMA describes policy goals to improve access to the area both for hunting and wildlife viewing (Bull and Richards 2003). To assist with these goals, the State through NDOW is planning to use existing funds from Reclamation's Title 28 Program to construct new boat ramps, develop campgrounds and wildlife viewing areas, and improve access routes. NDOW is currently in the planning phase for these improvements, with an anticipated completion date of 2005. The proposed total cost of the project would be approximately \$230,000, with the Title 28 grant contributing approximately half of the estimated cost. Currently, there is a boat launch and primitive campground near the Toulon Lake Canal.

#### **3.7.1.2. Rye Patch Dam and Reservoir**

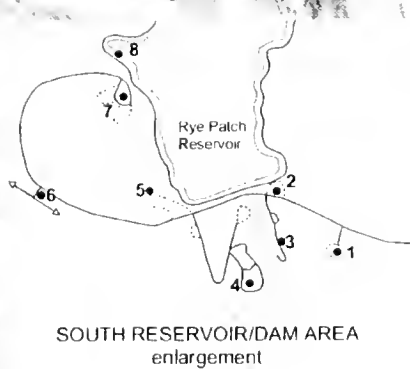
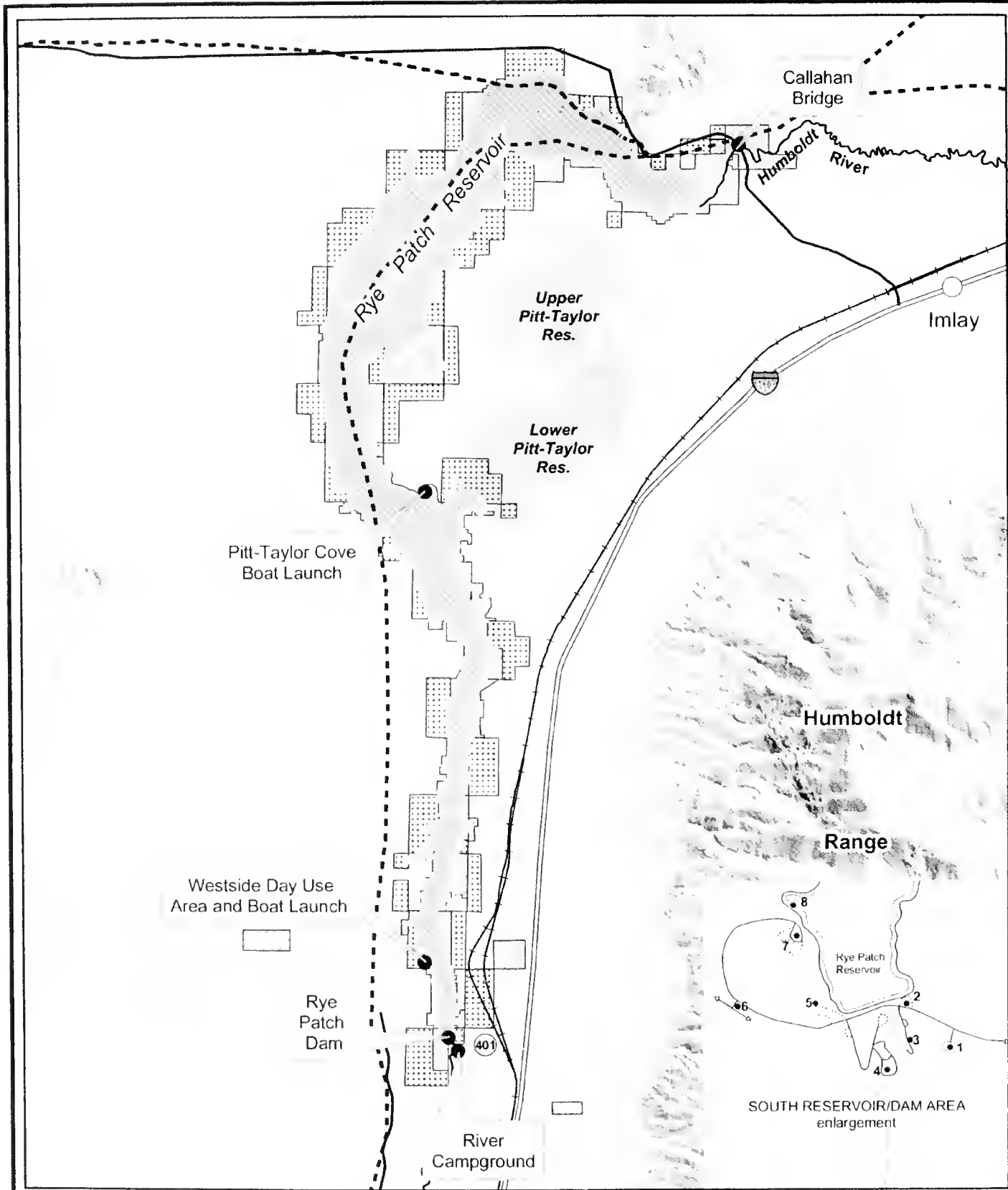
Prior to 1971, PCWCD operated limited recreational facilities in the Rye Patch Reservoir area. Since 1971, the State of Nevada has operated the Rye Patch State Recreation Area under a management agreement among State Parks, Reclamation, and PCWCD. Recreational activities include boating, water-skiing, and fishing on the reservoir itself; and picnicking, hiking, and camping along the shore and upland areas around the reservoir.

Most of the shoreline of the reservoir is open space and undeveloped, and can be used for camping. Developed recreational facilities are mostly concentrated around Rye Patch Dam. **Figure 3-4** shows the locations of these facilities.

At present, there are two campgrounds in the Rye Patch State Recreation Area. The River Campground is located below the dam along the Humboldt River, and includes 18 campsites with picnic tables, barbecues or fire rings, two double campsites, four ramadas, six water hydrants, a comfort station with showers, and two pit toilets. The Upper Campground is located near the boat launch, and includes 24 campsites with picnic tables, 12 water hydrants, and a comfort station, which is shared with the boat launch. Both the campground and boat launch provide reservoir access. A fee tube is used for deposit of camping fees for the developed and undeveloped sites along the reservoir perimeter.

There are two developed day-use picnic areas near the dam. One site is below the dam and provides river access and overflow camping. The second area is above the dam on the northwest, and provides five picnic sites and a comfort station.

The Group Use Area, adjacent to the Upper Campground, includes a large ramada, group barbecue, comfort station, and parking, and can accommodate up to 100 people (Frisman et al. 1994). The developed areas above the dam consist of two of the concrete boat ramps and parking lots. A fish-cleaning station has recently been constructed near the ramp of the Upper Campground area. A third boat ramp, called the Pitt-Taylor Cove Boat Launch, and primitive day-use campground have been built further upstream of the Rye Patch Dam near the Pitt-Taylor Dam. There is a primitive area at the upper reaches of the reservoir near Callahan Bridge that provides river access. There are no developed facilities in this location.



Legend	
City	Unpaved Road
Highway	Acquired PCWCD
Railroad	Withdrawn State
California Trail	Withdrawn PCWCD
Road	

NEVADA

Project Location



DRAFT

**Humboldt Project Conveyance EIS**

**Figure 3.4: Rye Patch Recreation Map**

Date 01/16/05 | File: Rye\_Patch\_Rec | Author: djb

Annual visitation to the Rye Patch State Recreational Area fluctuates with water levels within the reservoir. As shown in **Table 3.7-1**, prior to the recent drought, the number of visitors per year was approaching 100,000 (DCNR 2002). However, as a result of reduced water levels caused by the ongoing drought, the number of visitors declined to an estimated 56,000 in 2003. Although the overall number of visitors has declined, park staff has noted that the park is receiving increased visitation from the Reno-Sparks area (Orr 2004).

<b>TABLE 3.7-1 YEARLY VISITATION AT RYE PATCH STATE RECREATION AREA</b>				
<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
84,756	82,611	79,908	82,239	94,188
Source: DCNR 2002				

In 1991, State Parks prepared a Development Plan for Rye Patch State Recreation Area. The plan included recommendations to improve and expand existing facilities in addition to constructing new recreational facilities and areas. **Table 3.7-2** below lists the proposed recommendations.

<b>TABLE 3.7-2 PROPOSED DEVELOPMENTS AT RYE PATCH STATE RECREATION AREA</b>	
<b>AREA</b>	<b>IMPROVEMENTS</b>
Below the Rye Patch Dam	Construct new picnic sites, restrooms, showers, and RV dump station. Develop River Interpretative Trail.
Above the Rye Patch Dam	On the eastern side of the Rye Patch Dam, improvements will consist of an informational kiosk, a trailhead for the River Interpretative Trail, and additional parking.
Numa Cove	At Upper Campground: Provide additional day-use overflow camping area and develop a marine concession. At Westside day-use area provide additional picnic sites and improve beach. Build new campground with 40 to 45 campsites, build restrooms with showers, and develop a reservation-only group camp with restrooms and showers.
Pitt-Taylor Cove	Improve boat launch, provide potable water, shade trees and landscaping, and develop eight to 10 picnic sites.
Callahan Bridge	Develop four to six picnic sites, restrooms, parking area, and a minor trailhead. Improve access to the area.
Source: Eissman et al. 1991	

The Development Plan also includes provisions to investigate the possible acquisition of private lands adjacent to the reservoir. In 2002, the people of the State of Nevada voted on and passed Question 1, which directs the State to sell bonds to develop recreational facilities within the State. Approximately \$1.8 million of current and future bond sales have been allocated to Rye Patch to implement the Development Plan. With the aid of Question 1 monies, State Parks recently purchased approximately 275 acres of land for the development of the Upper Campground boat ramp parking lot. Future bond monies are proposed to be used for improving the Pitt-Taylor Campsite and developing the Numa Cove Campground.

State Parks collects a fee for entrance into the Rye Patch State Recreation Area. These fees are deposited into the State's General Fund. Although the fees offset some of the operating costs of the park, the amount collected (approximately \$50,000 per year) is not enough to support the park. Fees collected in the last few years have declined because of the low water conditions at the park (Orr 2004). The budget for Rye Patch State Recreation Area, like other state parks, is made on a 2-year cycle and includes the

anticipated amount needed for daily operations and maintenance. In addition, the State has an established development plan and budget for Rye Patch. When State Parks received authorization to operate the Rye Patch Recreation Area, they received an initial grant, with additional funding provided as available. Since this time, the bulk of the development monies for improvements and health and safety additions were paid by Reclamation as Title 28 grants.

### 3.7.1.3. Battle Mountain Community Pasture

Recreational resources in the Battle Mountain area consist of developed public and private facilities and open rangelands that may be accessed for recreational uses.

The Battle Mountain Community Pasture is primarily used for livestock grazing by PCWCD patrons. Since the 1970s, it has been PCWCD's operational policy that the pasture gates not be locked, and public access is permitted when cattle are not present. The most common recreational use within the Community Pasture is hunting, mostly waterfowl, deer, and some upland game birds. While the Humboldt River can be accessed through the Community Pasture, fishing opportunities are limited in this section of the river. Outside the Community Pasture area, the Town of Battle Mountain has developed other recreational resources listed in **Table 3.7-3**.

<b>TABLE 3.7-3 BATTLE MOUNTAIN RECREATIONAL RESOURCES</b>		
<b>Name</b>	<b>Location</b>	<b>Facilities</b>
Livestock Events Center	North Reese	Rodeo grounds and grandstands Livestock holding and viewing area
The Mountain View Golf Course	On Highway 305, approximately 1 mile south of Battle Mountain	Nine-hole golf course
The Copper Basin Mountain Bike Trail	Off of Highway 305, approximately 3 miles south of Battle Mountain	Facility on BLM land consisting of multiple trails ranging from 5- to 8.25-mile loops
Elquist Park	561 Altenburg Avenue	Covered areas, picnic tables, barbecues, volleyball court, and playground
Lion's Park	North Reese Street	Covered area, picnic tables, barbecues, horseshoes, playground
Spring Canyon Park	E. Antelope & Bryson	Covered area, picnic tables, barbecues, playground
Borealis Park	Bastain Road	Covered area, picnic tables, barbecues, volleyball, basketball, playground
Battle Mountain Sports Complex	Lemaire Road	Two lighted tennis courts, skate park, lighted baseball fields, restrooms, and concession stand  Two lighted soccer fields and "fastpitch" ball field are planned
RCA Flying Field-Sage Trimmers	Dump Road	Remote control airplane flying field, bleachers, suncovers on pit area
Lander Gun Club	Dump Road	Pistol and rifle range out to 300 yards, three trap layouts
ATV Moto Cross Track	Airport Frontage Road	Dirt track
Battle Mountain Race Track	Airport Frontage Road	IMCA-sanctioned Circle Track (dirt track, lighted, grandstands, restrooms, concession stands)
Source: Peterson 2004		

## **3.7.2. Environmental Impacts**

### **3.7.2.1. Proposed Action/Preferred Alternative**

#### **3.7.2.1.1. Humboldt Sink**

Under the Proposed Action, project lands currently operated as part of the Humboldt WMA would transfer from federal ownership to the State of Nevada with a small portion transferred to Pershing County for airport expansion. NDOW would continue to manage the Humboldt WMA. The title transfer is an administrative action and, as such, there would be no changes or impacts to recreation or recreational resources resulting from the transfer of land to the State. Management of these lands would be governed by provisions of NRS 501.65 and NRS 501.181, which establish policies and regulations for preservation, protection, management, and restoration of fish and wildlife habitat under State jurisdiction.

Approximately 990 acres adjacent to Derby Airfield would be transferred to Pershing County. While the airfield is adjacent to the Humboldt WMA, no recreational resources have been identified on these lands. There would be no changes or impacts to recreation or recreational resources resulting from the transfer of land to Pershing County.

#### **3.7.2.1.2. Rye Patch Dam and Reservoir**

Under the Proposed Action, the State of Nevada would receive withdrawn lands above the high-water mark of the reservoir and would continue to manage current and future recreational use and development at the reservoir under an agreement with PCWCD. Therefore, under the Proposed Action, recreation use is not expected to change. Because the Rye Patch State Recreation Area would no longer be located on federal lands, State Parks would not be eligible to receive new Title 28 monies for future capital improvements. State Parks is eligible to receive State funding under existing natural resources programs, such as the 2002 Question 1 bond, for conservation and resource protection. However, the monies that have been allocated to Rye Patch are to be used to fund facilities development, not operations and maintenance.

Under the Proposed Action, PCWCD would receive all acquired lands, in addition to all withdrawn lands beneath the Rye Patch Reservoir. The largest potential impact to recreation from the proposed title transfer is associated with the level of the reservoir itself. As part of the operational criteria developed for the transfer agreement, at least 3,000 acre-feet will be maintained as a minimum operational pool in Rye Patch reservoir. To maintain the minimum pool, PCWCD would reduce or cease all releases when the reservoir reaches a minimum of 3,000 acre-feet of storage.

#### **3.7.2.1.3. Battle Mountain Community Pasture**

The Proposed Action would transfer acquired lands within the Battle Mountain Community Pasture from Reclamation to PCWCD, the State of Nevada, and Lander County. PCWCD would receive title to approximately 22,500 acres within the Battle Mountain Community Pasture to be managed and operated for grazing purposes. Currently, PCWCD allows members of the public to use the property for recreational activities, including hunting and fishing when such activities do not directly conflict with livestock grazing operations.

Under the Proposed Action, the State of Nevada would receive title to approximately 5,850 acres of land in the Community Pasture for the potential development of a wetland. It is NDOW's goal to restore a wetland régime for this area, but specific management plans, including the acquisition of water sources

for the area, have not been finalized. Transferring lands to the State of Nevada is expected to enhance recreational opportunities in the Community Pasture.

Lander County would receive title to approximately 1,100 acres of Community Pasture lands. Proposed recreational opportunities include the development of a primitive day-use area and parking area adjacent to the Humboldt River, a dedicated easement along the river, and expansion of the Livestock Events Center. No facilities are proposed to be developed at the day-use area, but it would provide access to the Humboldt River. The easement along the river would allow public access to the river and offer hiking and wildlife viewing opportunities. The proposed park, easement, and future expansion of the Livestock Events Center would increase recreational opportunities in Lander County and would have a net positive effect on recreation resulting from the Proposed Action.

### **3.7.2.2. No Action Alternative**

Under the No Action Alternative, recreational opportunities would remain unchanged in the Humboldt Sink and Rye Patch Reservoir areas. State Parks would continue to manage the Rye Patch State Recreation Area under a tri-party agreement with Reclamation and PCWCD. Portions of lands in the Battle Mountain Community Pasture would not be transferred to the State of Nevada or Lander County. Proposed recreational enhancements by Lander County for the development of a primitive day-use and parking area adjacent to the Humboldt River, a dedicated easement along the river, and expansion of the Livestock Events Center would not occur.

## **3.8. SOCIOECONOMICS**

### **3.8.1. Affected Environment**

The Humboldt Project lies within three Nevada counties: Pershing, Lander, and Churchill. The small portion in Churchill County is vacant land, and there are no proposed actions or foreseeable changes to these parcels. Therefore, this analysis addresses existing socioeconomic conditions and trends, including population, housing, employment, public services, and utilities within the two primary Counties of Pershing and Lander.

#### **3.8.1.1. Population and Population Trends**

Official estimates from the 2003 Nevada State Demographers Office list Pershing County's population at 6,967 and Lander County at 5,277. The two identified towns within Pershing County are the incorporated City of Lovelock and the unincorporated town of Inlay. The City of Lovelock is located approximately 22 miles south of the Rye Patch dam and reservoir and approximately 10 miles north of the northern extremity of the Humboldt Sink area. There are no incorporated cities in Lander County, but the county's population is generally concentrated in three unincorporated towns, including Battle Mountain, Austin, and Kingston. Battle Mountain is the largest town in the county, and lies adjacent to the Battle Mountain Community Pasture.

**Table 3.8-1** below presents year 2000 U. S. Census population data and ethnic composition for Pershing and Lander Counties, and for the major population centers for each county. Because of recounts to the 2000 U. S. Census, the 2003 Nevada State Demographers Office population data differs from the U.S. Census data. **Table 3.8-2** following presents the population composition percentages for each county.



**TABLE 3.8-1 ETHNIC COMPOSITION OF MAJOR POPULATION CENTERS**

<b>Ethnicity</b>	<b>Pershing County</b>	<b>Lander County</b>	<b>City of Lovelock</b>	<b>Town of Battle Mountain</b>
White	4663	4385	1314	3971
Black or African American	356	10	16	5
American Indian and Alaska Native	203	216	124	211
Asian	34	20	6	17
Native Hawaiian and other Pacific Islander	13	2	4	2
One Race Total	5269	4633	1464	4206
Two or More Races	126	81	54	77
Total	5395	4714	1518	4283

Source: U.S. Census Bureau, 2000 Census Data

**TABLE 3.8-2 COUNTY POPULATION COMPOSITION**

<b>Ethnic Identity</b>	<b>Pershing County-Percent of Total</b>	<b>Lander County-Percent of Total</b>
White	86.4	93
African American	6.6	0.21
Native American	3.8	4.6
Asian or Pacific Islander	0.89	0.47
Other	2.31	1.73
Hispanic Heritage	19.3	18.5

Source: U.S. Census Bureau, 2000 Census Data

<sup>1</sup> Persons of Hispanic heritage may be of any race.

Because of rounding, the Lander County percentages add up to more than 100 percent.

### 3.8.1.2. Housing

Pershing County is sparsely populated with the major population center located in Lovelock and a few unincorporated communities along the Interstate 80 corridor. The remainder of Pershing County's population consists of individual farms and ranches. There are isolated farms and ranches near the Humboldt Sink area, but there are no residential areas on lands proposed to be transferred.

Single-family dwelling units predominate most of Pershing County. Most new homes are mobile or manufactured versus brick- or wood-constructed homes. There are also apartments and multi-family dwelling units within the City of Lovelock.

Inlay is the nearest community to the Rye Patch Reservoir project area, with a few individual ranches to the west and north of the project area. The dam tender's house is the only permanent residence on project lands in Rye Patch.

Like Pershing County, Lander County is sparsely populated outside of the communities of Battle Mountain, Austin, and Kingston, with housing consisting of individual ranch houses and other farm-related buildings. The Battle Mountain Community Pasture is adjacent to the Town of Battle Mountain, and most of the area housing is located south of the project area with some scattered ranches located

northeast of the project area.

Single-family homes predominate the Battle Mountain area and the remainder of Lander County, with apartment complexes found only within the unincorporated town of Battle Mountain. According to the Lander County Commissioner's office, no new permits were issued for brick or wood constructed housing in the Battle Mountain area in the last 2 years (Hinze 2004). All new permits were for mobile homes placed on concrete pads.

### 3.8.1.3. Employment and Unemployment

Employment data is available for Pershing County as a whole. The major sources of employment in Pershing County are agriculture, mining, construction, government (local, state, or federal), and retail and services. **Table 3.8-3** lists the top non-farming labor sectors in Pershing County according to the Nevada Commission of Economic Development. **Table 3.8-4** list the major employers in Pershing County.

<b>TABLE 3.8-3 EMP-1 MAJOR NON-AGRICULTURAL LABOR SECTORS IN PERSHING COUNTY</b>	
<b>Industry</b>	<b>Employees</b>
Government	760
Mining	590
Trade	300
Service	120
Manufacturing	50
Construction	20
Source: Nevada Commission of Economic Development 2000a	

<b>TABLE 3.8-4 EMP-2 MAJOR EMPLOYERS IN PERSHING COUNTY</b>	
<b>Employer</b>	<b>Number of Employees</b>
Coeur Rochester Industries	300
Eagle-Picher Industries	200
Pershing County School District	200
Consolidated Land and Livestock	100
Brinkerhoff Ranch, Inc.	100
Western Nevada Cattle Feeders	100
Ryepatch Truck Stop	100
Ro-Mark Pallet, Inc.	100
Fundis Company	100
Source: Nevada Commission of Economic Development 2000a	

Unemployment data for Pershing County for the year 2003 ranged from a high in March of 6.4 percent to a low of 4.1 percent in November. However, reflecting on the "boom-and-bust" cycle of mining, Pershing County's unemployment rate over the last decade ranged from a high of 7.6 percent to a low of 1.6 percent.

**Table 3.8-5** shows the top employment sectors for Lander County and **Table 3.8-6** shows the top employers in the Battle Mountain area.

**TABLE 3.8-5 EMP-3 MAJOR NON-AGRICULTURAL LABOR SECTORS IN LANDER COUNTY**

Industry	Employees
Mining	640
Government	580
Trade	390
Service	110
Manufacturing	40
Construction	30

Source: Nevada Commission of Economic Development 2000b

**TABLE 3.8-6 EMP-4 MAJOR EMPLOYERS IN BATTLE MOUNTAIN**

Employer	Number of Employees
Cortez Gold Mine	450
Newmont Mining Corp.	150
Lander County School District	142
Lander County	125
Battle Mountain General Hospital	86
M-I Drilling Fluids Company	74
BLM	70
Licheverry Food Town	48
Costal Chemical, Inc.	34

Source: Nevada Commission of Economic Development 2000b

During 2003, unemployment started high at the beginning of the year, with a 9.1 percent rate in January, falling to a low of 5.3 percent in August and rising to 5.5 percent at the end of the year.

Like Pershing County, Lander County's long-term employment/unemployment rates fluctuated greatly with the fortunes of the State's mining industry. Unlike Pershing County, however, the overall unemployment rate has been consistently high, with the lowest rates remaining greater than 5 percent.

#### **3.8.1.4. Police, Fire and Emergency Services**

##### **3.8.1.4.1. Police**

Police protection in Pershing County is provided by the City of Lovelock Police Department and the Pershing County Sheriff's Department. The Lovelock Police patrol area is within the city limits, with the Sheriff's Department patrolling the remainder of the county. In addition, all police, fire, and emergency dispatch duties within Pershing County are carried out by the Sheriff's Department.

The Sheriff's Department is headquartered in the City of Lovelock. None of the lands proposed for transfer are within the city limits of Lovelock. Security patrol for the Rye Patch State Recreation Area is the responsibility of Nevada State Park employees, with the support of the Sheriff's Department. While law enforcement on the Humboldt WMA is administered through NDOW's Law Enforcement Bureau, the Sheriff's Department does patrol and respond to emergency calls.

The Lander County Sheriff's Department provides police protection to all of Lander County, including lands in the Battle Mountain Community Pasture. The department is headquartered in Battle Mountain with a substation in the town of Austin. The Battle Mountain Band of the Te-Moak Tribe is served by the tribal police.

#### **3.8.1.4.2. Fire and Emergency Services**

Two volunteer fire departments serve the Rye Patch area. The first responding department is the Rye Patch Volunteer Fire Department. The Lovelock Volunteer Fire Department is the second responding department, which responds for medical emergencies.

The Battle Mountain Volunteer Fire Department provides fire protective services to the Battle Mountain area, including areas located on project lands. The Battle Mountain Ambulance Department provides emergency medical transport for the Battle Mountain area. The ambulance department has a full-time paid coordinator, but ambulance response personnel are volunteers. Battle Mountain is the location of the county's 25-bed Battle Mountain General Hospital.

#### **3.8.1.5. Utilities**

##### **3.8.1.5.1. Electric**

Sierra Pacific Power Company is the electric power provider in both Pershing and Lander Counties. Power generation facilities in the region include the North Valmy Power Plant west of Battle Mountain and a geothermal plant west of Winnemucca. There is an electrical power substation located in the Battle Mountain Community Pasture. This substation is owned and maintained by Sierra Pacific Power Company. There are electric transmission and distribution lines on or near project lands throughout all three project areas.

##### **3.8.1.5.2. Gas**

The areas near Rye Patch and the town of Inlay are not serviced by natural gas. Four private firms deliver propane within Pershing County. An underground natural gas pipeline runs along the east side of Rye Patch reservoir largely on adjacent lands, though it does cross project land (Tetra Tech 2004). No other natural gas pipelines near project lands were identified.

Southwest Gas Company provides natural gas service within the unincorporated Town of Battle Mountain. However, homes outside of town use propane delivered by one of two private providers.

##### **3.8.1.5.3. Water Service**

The Lovelock Meadows Water District serves the majority of the general project area within Pershing County. The water district covers a total area of approximately 250 square miles, stretching from Oreana in the north to Derby Field in the south and about 4 miles east and west from Lovelock. Residents not served by the Lovelock Meadows Water District rely on private wells. Within the Town of Battle Mountain, water is provided by the Battle Mountain Water and Sewer Department, with outlying residents using private wells (Snap 2004).

There are two groundwater wells at Rye Patch Reservoir for potable use. One is located on lands owned by the PCWCD, and is used for the park office, ranger station, ranger's residence, and the PCWCD Dam Tender's residence. The other is located on lands to be transferred, west of the dam. It provides potable water to the group-use area, trailer dump station, the River Campground and all Westside facilities (Hodges 2004, Tetra Tech 2004). There are no groundwater wells on project lands in the Humboldt Sink.

### 3.8.1.6. Property Values and Tax Revenue

"Payments in Lieu of Taxes" (or PILT) are federal payments to local governments that help offset losses in property taxes caused by nontaxable federal lands within their boundaries. Public Law 94-565, dated October 20, 1976, is the key law that established these payments. This law was rewritten and amended by Public Law 97-258 on September 13, 1982, and codified at Chapter 69, Title 31 of the United States Code. The law recognizes that the inability of local governments to collect property taxes on federally-owned land can create a financial impact.

Congress appropriates PILT payments each year. The BLM administers the program for the Department of the Interior. The BLM allocates payments according to a formula in the PILT Act that includes population, receipt-sharing payments, and the amount of federal land within an affected county. These payments are additional to other federal revenues (such as oil and gas leasing, livestock grazing, and timber harvesting) that the federal government transfers to the states. BLM's responsibility is to calculate payments according to formulas established by law and to distribute the funds in an equitable manner.

PILT payments are made annually for tax-exempt federal lands administered by the Department of the Interior, including BLM, National Park Service, U.S. Fish and Wildlife Service, and Reclamation. In addition, PILT payments are made annually by the U.S. Forest Service (part of the U.S. Department of Agriculture), and some military installations.

**Table 3.8-7** below lists the amount of PILT-eligible lands in Churchill, Pershing, and Lander Counties for the last 5 years, the amount of Reclamation land within that acreage, and the amount paid to each county.

TABLE 3.8-7 PILT PAYMENTS OVER LAST 5 YEARS			
	Total Federal Acreage	Reclamation Acreage	PILT Payment
<b>Churchill County</b>			
2000	2,143,895	8,346	\$649,397.00
2001	2,143,895	8,346	\$955,700.00
2002	2,143,755	8,346	\$1,003,277.00
2003	2,143,755	8,346	\$1,151,139.00
2004	2,143,755	8,346	\$1,183,436.00
<b>Pershing County</b>			
2000	2,929,129	19,480	\$263,494.00
2001	2,929,129	19,480	\$466,127.00
2002	2,928,779	19,480	\$489,334.00
2003	2,928,779	19,480	\$561,467.00
2004	2,928,779	19,480	\$577,210.00
<b>Lander County</b>			
2000	3,335,585	29,884	\$324,916.00
2001	3,335,585	29,884	\$424,277.00
2002	3,335,384	29,884	\$445,999.00
2003	3,335,185	29,884	\$454,824.00
2004	3,335,185	29,884	\$467,597.00
Source: BLM 2004			

As shown in the above table, although the amount of federal lands is stable, the size of the PILT Payment can vary from year to year depending on the formula used by the BLM.

Table 3.8-8 below shows, for each county, what percentage of the county's total federal lands are Reclamation lands, and, based on that percentage, an estimate of the amount of PILT monies from Reclamation land.

TABLE 3.8-8 RECLAMATION LAND PERCENTAGE AND PILT PAYMENT 2000 TO 2004		
	Reclamation Land Percentage	Reclamation PILT Payment
<b>Churchill County</b>		
2000	0.389	\$2528.05
2001	0.389	\$3720.46
2002	0.389	\$3905.93
2003	0.389	\$4481.58
2004	0.389	\$4607.32
<b>Pershing County</b>		
2000	0.655	\$1723.92
2001	0.655	\$3053.13
2002	0.655	\$3205.14
2003	0.655	\$3677.61
2004	0.655	\$3780.03
<b>Lander County</b>		
2000	0.896	\$2911.25
2001	0.896	\$3801.52
2002	0.896	\$3996.15
2003	0.896	\$4075.22
2004	0.896	\$4189.77

## 3.8.2. Environmental Impacts

### 3.8.2.1. Proposed Action / Preferred Alternative

#### 3.8.2.1.1. Police Protection

The State currently provides security services at Rye Patch Reservoir with support from the Pershing County Sheriff's Department. An agreement between the State and PCWCD will be necessary to continue to enforce park regulations when title transfer occurs. This policing security agreement will recognize the enforcement authority of State personnel within the Rye Patch State Recreational area regardless of the ownership of the land.

#### 3.8.2.1.2. Water Service

Any proposed development of the parcel next to the treatment plant being transferred to Lander County would require water and sewer services. The area is currently outside of the Battle Mountain Water and Sewer Department's service area. However, it is adjacent to existing water and sewer lines that currently have (or, with already planned improvements, will have) the capacity to be connected without impacting water or sewer services.

#### 3.8.2.1.3. PILT Payments

Under the Proposed Action, project lands located within Pershing, Lander, and Churchill Counties will transfer to PCWCD, the State of Nevada, Pershing County, and Lander County. With the transfer, these lands would be removed from each of the counties' PILT payment calculation. As political entities, lands

transferred to PCWCD and the State of Nevada would be exempt from property tax. Therefore, the size of the PII-T payments made to Pershing, Lander, and Churchill Counties would decline.

The acreage proposed for transfer to Pershing County is adjacent to Derby Field, the county's airport. Pershing County is planning to develop an Airport Master Plan, which may increase economic development in the area. Improvements to the airport and development of the land surrounding the airport may provide additional revenues to Pershing County that could eventually offset the loss of revenues from the reduced PII-T payment.

The 1,100 acres being transferred to Lander County includes the Livestock Events Center and surrounding area, a maintenance building used by PCWCD, a parcel proposed for use as a primitive day-use and parking area, an access easement along the Humboldt River, and the 932-acre parcel adjacent to the sewage treatment plant. Plans for the parcel next to the river are to develop a county park. County lands are also exempt from property tax. The Livestock Events Center is designated as a governmental (county) facility, and it too would be exempt from property tax, however sales taxes would be generated during facility events. The parcel next to the sewage treatment plant is designated Industrial by Lander County, and plans for the parcel are to make it available for commercial development.

The land planned for the park would be exempt from property tax, and as a primitive park would not likely generate any additional user fees or related revenues. Future expansion of the Livestock Events Center is envisioned to accommodate larger events. While exempt from property tax, the Livestock Events Center provides a source of sales tax and other revenues. Improvements to the center could increase revenue-generating activities.

Because Lander County is planning to open the parcel next to the sewage treatment plant for commercial development, this property may be subject to future property taxes and additional sales tax revenues. Local assessment of property for tax purposes is usually higher than that for the PII-T formulation. Therefore, future private development of this parcel may eventually offset any reduction in PII-T payments resulting from the transfer.

### **3.8.2.2. No Action Alternative**

Under the No Action Alternative, the United States would continue to hold title pursuant to its contract(s) with PCWCD. PCWCD would continue to manage the lands according to the purposes for which the Project was authorized, subject to existing agreements and contracts with the State and Reclamation. The amount of federal land included in either county PII-T payment calculation would not change. Payment amounts to either county would continue to be subject to the formula used by the BLM.

Transfer of lands to the State of Nevada for wetlands development in the Battle Mountain Community Pasture would not occur. Transfer of the lands adjacent to the sewage treatment plant for commercial development and recreational enhancements by Lander County, including the development of a primitive day-use area and parking area adjacent to the Humboldt River, a dedicated easement along the river, and the expansion of the Livestock Events Center would not occur. Reclamation lands within the Humboldt WMA and in the Rye Patch area would not be transferred to the State. Pershing County would not receive adjacent parcels in the Humboldt Sink for future expansion of the Derby Field.

## **3.9. ENVIRONMENTAL JUSTICE**

Environmental justice refers to the fair treatment of peoples of all races, income levels, and cultures with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment implies that no person or group of people should shoulder a disproportionate

share of negative impacts resulting from the execution of federal programs.

Executive Order 12898, dated February 11, 1994, establishes the achievement of environmental justice as a federal agency priority. The memorandum accompanying the order directs heads of departments and agencies to analyze the environmental effects of federal actions, including human health, economic, and social effects when required by NEPA, and to address significant and adverse effects on minority and low-income communities.

### **3.9.1. Affected Environment**

Population, employment, and economic data for Pershing and Lander Counties are presented in **Section 3.8**. Both counties have a low minority population. Median household incomes are consistent with overall statewide averages. Although employment in the counties fluctuates with the cyclic nature of the mining industry, neither county has a greater proportion of low-income families than the State as a whole.

There are two Native American tribes located near project lands. Native American populations in both counties comprise less than 4 percent of the total population. In Pershing County, the Lovelock Paiute Tribe is located near the City of Lovelock, and more than 5 miles from the project area. In Lander County, the Battle Mountain Band of the Te-Moak Tribe resides on lands adjacent to the project area.

### **3.9.2. Environmental Impacts**

#### **3.9.2.1. Proposed Action/Preferred Alternative**

Under the Proposed Action, the State of Nevada and Pershing County would receive withdrawn lands in the Humboldt Sink, and the PCWCD and State of Nevada would receive lands in the Rye Patch area. There are no substantial populations in these areas. Therefore, the Proposed Action will have no impacts on environmental justice issues in these areas.

The Battle Mountain Te-Moak Tribe is located adjacent to the lands proposed to be transferred to Lander County. This parcel is currently zoned industrial. In the future, Lander County may develop an industrial park on this 932-acre parcel. However, these decisions are speculative at this time. Development of this parcel will depend on a number of future political, planning, zoning, and economic factors. At this time, the Proposed Action is not expected to adversely impact environmental justice issues in the Battle Mountain area.

#### **3.9.2.2. No Action Alternative**

Under the No Action Alternative, impacts to environmental justice would not occur.

## **3.10. CULTURAL RESOURCES**

Cultural resources are physical expressions of human activity or occupation. Such resources may include culturally significant landscapes, prehistoric and historic archaeological sites, districts, and isolated artifacts or features, historic structures, and traditional cultural properties (TCPs). TCPs are sites or areas of important cultural value to existing communities. Historic properties are cultural resources that are eligible or listed on the National Register of Historic Places (NRHP). The National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (Council) an opportunity to comment on such undertakings. Native American human remains, funerary and sacred objects, and objects of



cultural patrimony from federal lands are also subject to the Native American Graves Protection and Repatriation Act (NAGPRA). The Archaeological Resources Protection Act (ARPA) protects archaeological resources on federal land.

### 3.10.1. Affected Environment

Approximately 160 prehistoric and historic cultural resources have been identified within the title transfer area through a search of existing records. Prehistoric site types include rock shelters, habitation sites, limited activity sites, petroglyphs, lithic quarries, and artifact scatters. Historic sites are typified by the activities that drew Anglo settlers to the project area. Sites dating to the historic period and related to the Anglo presence include trails, towns, ranches, water conveyance features, mines, and railroads. Sites that date to the contact period and sites that represent historic, post-contact aboriginal use are also identified within the project area.

#### 3.10.1.1. Cultural History

The following description of the cultural history of the project area is summarized directly from existing literature, including other environmental studies conducted in the local area. Primary sources utilized to summarize the project area's culture history include: D'Azevedo (1986), Histon (1986), Fowler and Eljehblad (1986), Grayson (1993), Smith et al. (1983), Steward (1938), Thomas et al. (1986), Autobee (2004) and BLM (2004).

**Paleoindian (11,200 -10,900 B.P.)** The widely-known Clovis culture dates to this period. Clovis has been typified by large, distinctive, fluted projectile points that may have been used to hunt now-extinct large mammals. Clovis has not been identified in the Great Basin, but is more widely known from sites in the southwest and the plains. There are fluted points within the Great Basin, but there is some question as to their specific date of use. These projectile points are commonly found on the surface, and with no stratigraphy to examine, it is impossible to conclusively date the artifacts. However, the fluted points of the Great Basin are typically associated with the earliest occupations of the region. In addition to this chronological question, variability in form of Great Basin fluted points when compared with typical Clovis points further confuses their relationship to the traditionally identified Clovis culture.

At Rye Patch Reservoir deposits of Pleistocene megafauna and, though not associated, very early artifact assemblages (assumed to date back to 10,000 to 12,000 years ago) have been found. Fragments of large, concave-base projectile points were found at the Old Humboldt Site (Ruseo and Davis 1987). These points are similar in several aspects of workmanship and design to Clovis points, which have been found in other regions associated with extinct Pleistocene megafauna.

**Paleoarchaic (10,900–7500 B.P.)** A drying trend began in the Paleoarchaic period, causing large Pleistocene lakes to reduce to smaller shallow lakes or marshes. Evidence of human occupation tend to cluster around these areas or around watercourses that flow into shallow lakes and marshes. However, evidence of human occupation from this period has also been identified in a variety of environments, indicating a broadening of the resource base, possibly in response to the disappearance of megafauna. Great Basin Stemmed points occur during this period, and are actually represented by local variations in point form. However, because the projectile points share so many characteristics, they are often grouped together and referred to as Great Basin Stemmed. Such points have been recovered from the Old Humboldt site at Rye Patch Reservoir (Ruseo and Davis 1987).

In addition to these points, crescent-shaped points or tools are also common. Such crescents are found in the Great Basin and the Mojave Desert, and may have been used to stun birds. In fact, it is unclear if

these crescent-shaped points were first produced in the Paleoarchaic, or in the preceding Paleoindian period. In any event, the points are part of a Paleoarchaic tool kit that also includes large bifacial knives, graters, punches, chopping tools, scrapers, and occasionally, metates and manos. The appearance of metates and manos may also indicate a widening of the resource base away from large game, with more of the subsistence base relying on locally available seed-producing plants. A good example of the Paleoarchaic tool kit can be found at Salmat site in the Carson Sink (south of the project area on the east side of the Mopung Hills) (Fuohy 1968).

**Early Archaic (7500–4000 B.P.)** The drying trend from the previous Paleoarchaic period continued and intensified during this period. Low-elevation lakes and marshes largely dried, increasing the necessity of a broad-based subsistence strategy. Desert, mountain, and riverine resource were utilized, and this period saw an increase in the use of grinding tools such as manos and metates.

During this period, evidence for occupation in the region surrounding the project area is sparse. However, the Lahontan Basin and the area around Winnemucca Lake do exhibit some sites from this period. The Lahontan Basin includes the area around the City of Fallon and northward, including the Carson Sink; Winnemucca Lake is located approximately 40 miles west of the Humboldt Sink and is currently a dry lake. Some sites along Winnemucca Lake, such as Shimmers Site I in Falcon Hill (Guano Cave), Cowbone Cave (Heizer and Hester 1978; Hattori 1982), Leonard Rockshelter (Grossepup 1958; Heizer and Hester 1978), and Silent Snake Springs date to this period. Occupation of Lovelock Cave (just south of the town of Lovelock) begins during this period and intensifies during the subsequent Middle Archaic period. Humboldt- and Gatecliff-type projectile points are known from this period.

**Middle Archaic (4000–1500 B.P.)** Occupations throughout the region of the project area intensify during this period. Caches become well-known at the early stages of this period. Cave sites tend to be used to cache, or store, important food-processing tools and other items to be used during a seasonal round where groups of people move over the landscape in an organized fashion to exploit various resources as they come into season. Groups were wide-ranging, and exploited resources of many ecotones. Tool types and projectile point styles did not alter drastically during the transition from the Early to Middle Archaic periods, but settlement and subsistence patterns did shift. This is most likely because of increased moisture during this period, which “re-created” shallow lakes and marshes.

Sites with evidence of longer occupations are more typical of this period, as the use of pithouses became more common. Projectile points typical of this period include Northern Side-notched, Elko, and Gatecliff types. Distinctive basketry known as Lovelock Wickerware appears during this period, as do certain styles of rock art (Heizer and Baumhoff 1962) and a wider-ranging trade network. Use of cache sites continued during this period, but they also began to exhibit pithouse features. In addition to occupations along the Humboldt River and the Winnemucca Lakes area, sites in and around the current location of the Rye Patch Reservoir date to this period.

**Late Archaic (1500–200 B.P.)** The bow and arrow replaced the atlatl during this period. Correspondingly, projectile point styles changed to suit this new technology. Projectile points become smaller, and triangular-shaped points become the norm for several hundred years (Rose Spring and Fastgate types). After Rose Spring- and Fastgate-type projectile points, Desert Series points become characteristic. Subsistence strategies continued to broaden (because of a drying period), utilizing a wide range of plant foods, with a faunal focus on small game such as rabbits and squirrels.

At sites along the Humboldt River, habitations returned to more ephemeral occupations, with pithouse architecture reflecting a more expedient use. Use of temporary base camps continued at Rye Patch Reservoir, and these sites exhibit the greatest variety of faunal remains recorded during the entire prehistoric era (Ruseo and Davis 1982).

**Ethnographic<sup>1</sup> (200 B.P. to ca. A.D. 1950).** Subsistence activities from the Late Archaic continued into the ethnographic period, where a broad-based mixture of economic strategies were used (Thomas et al. 1986). As the environment continued to dry from the preceding Late Archaic period, Shoshone and Paiutes maintained a seasonal round (Fowler and Eljeblad 1986, Grayson 1993; Thomas et al. 1986). As these groups were highly mobile, shelter was constructed from readily available materials such as brush, grass, or woven mats (Wheat 1967). Because of the environment and subsistence lifestyle of the Shoshone and Paiutes, groups were organized into small units focused on the nuclear or extended family. Perhaps two or three times a year, groups would congregate for communal activities or to reside in winter villages, where populations could reach up to 150 individuals. Winter villages, because they are semi-permanent, were located along the Humboldt River and other permanent water sources. A Northern Paiute band was known to winter along the Humboldt River between Humboldt Sink and Winnemucca (Park et al. 1938; Steward and Wheller-Voegelin 1974).

As Anglo settlers entered the region, they displaced the aboriginal populations. Some Shoshone and Paiute refused resettlement efforts, but most were consolidated into colonies and reservations. No such settlements occurred within lands proposed for transfer, but there are two communities adjacent to such lands. These communities are the Lovelock Paiute Tribe and the Battle Mountain Band of the Te-Moak Tribe of Western Shoshone.

- **Lovelock Paiute Tribe.** Paiute Indians of the Lovelock Colony are descendants of the Numa, a group of people who once inhabited Nevada, Oregon, Idaho, and California. When Anglos entered the region, resources such as food and water became scarce. Paiute living in the Lovelock area joined in the 1860 Pyramid Lake War against Anglo occupation. After their defeat, they returned to camp near Lovelock and avoided Anglo settlers.

In 1907, William Pitt sold 2 acres of land to the federal government to be used as an Indian school in order to avoid integration of Indians and Anglos in school. In 1910, he sold an additional 18 acres to the government for Indian use, and this entire 20-acre parcel was decreed an Indian reservation by the Secretary of the Interior. The colony is organized under the Indian Reorganization Act of 1934, and a constitution and by-laws were approved on March 14, 1968.

- **Battle Mountain Band of the Te-Moak Tribe of Western Shoshone.** The Battle Mountain region was the boundary between the Shoshone and Paiute. The Battle Mountain area was a focus of Shoshone rabbit and antelope drives. With the arrival of Anglo settlers, and the founding of the Town of Battle Mountain, the Shoshone were pushed to the outskirts of town, occasionally working for Anglo businesses. The colony consists of two separate parcels totaling 683.3 acres. The original 677.05-acre reservation was established by Executive Order on June 18, 1917 for Shoshone living near Battle Mountain and Winnemucca. An act of the 90th Congress on August 21, 1967 added 6.25 acres. The colony is organized under the Indian Reorganization Act of 1934, its charter was ratified in 1938, and its constitution and by-laws were sanctioned in August 1982. The Battle Mountain Colony is one of four separate colonies that comprise the Te-Moak Tribe of Western Shoshone Indians, with tribal headquarters in Elko, Nevada. The Te-Moak Tribal Council has total jurisdiction over all tribal lands, but the colonies retain sovereignty over all other affairs.

**Historic<sup>2</sup> (ca. 1800 - Present)** Trappers first entered the Humboldt River Valley at this time. This presence in turn opened the way through Nevada for emigrants to reach California and Oregon on a variety of trails, such as the Applegate-Lassen Trail, the California Trail (Truckee River Route and other local variants), Fremont Trail, and others. The California Trail carried more than 250,000 gold seekers

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1. Refers to Native American occupation.

2. Refers to Anglo occupation of the area.

and farmers to the gold fields and rich farmlands of California during the 1840s and 1850s, the greatest mass migration in American history (NPS 1999).

In the mid-1800s, emigrants following the California Trail used the lower Humboldt River in what is now Pershing County to rest with their livestock before attempting to cross the next long, arid segment of the trail west, known and dreaded as the Forty Mile Desert. Before long, the increasing local population of emigrants and miners fueled a significant demand for agricultural products in the area. In 1868 the Central Pacific Railroad reached Lovelock. The railroad transported people and goods throughout the west, and created a key element in the growth and survival of many small towns throughout the region. As populations grew, the need for reliable water supplies became increasingly important.

In the early 1900s, the Humboldt-Lovelock Irrigation Light and Power Company constructed the Upper and Lower Pitt-Taylor Reservoirs, located upstream of Lovelock, Nevada. The combined capacity of these reservoirs was 49,000 acre-feet, which soon proved to be inadequate as demands for the waters of the Humboldt River increased. In addition, the reservoirs suffered from a lack of available water during dry years.

As the settlement of the Humboldt Basin progressed, the amount of water available at the lower end of the system continued to decrease. Increasing use of water on lands in the upper reaches of the river basin created shortages for lower basin water users. In response to the problem, the Nevada State Engineer ordered a general adjudication of the Humboldt River system in 1923, designating the Sixth Judicial District Court in Winnemucca as the decree court.

In 1931, Hon. George A. Bartlett issued a final decree establishing the water rights for the Humboldt River Basin. The Bartlett Decree was immediately subjected to judicial challenges, which were resolved through the issuance of the "Edwards Decree" in 1934. Together, these decrees are commonly referred to as the Humboldt River Decree. The Humboldt River adjudication was finalized by order of the Nevada Supreme Court in 1938, when it affirmed the Humboldt River Decree, halting all future challenges.

With the issuance of the Bartlett Decree in 1931, some measure of order was established in the river, opening the way for efforts to build a new water storage project for Lovelock Valley irrigators. The Lovelock Irrigation District had been organized in 1926 for the primary purpose of exploring possible storage sites on the Humboldt River. However, these efforts intensified after the Bartlett Decree was entered. To facilitate the construction of such a project, the District reorganized as a quasi-governmental entity under the Nevada Irrigation District Act and changed its name to the Pershing County Water Conservation District.

In the early 1930s, PCWCD began negotiations with Reclamation for the construction of the Humboldt Project. The Humboldt Project was authorized for construction under the National Industrial Recovery Act of June 16, 1933, and approved in August 1933 when the Public Works Administration allocated 2 million dollars for construction. The Humboldt Project was found feasible by the Secretary on November 1, 1935, and approved by President Franklin D. Roosevelt on November 6, 1935.

After studying several locations for reservoir construction, PCWCD and Reclamation decided on the present site of Rye Patch Reservoir. However, to make the project feasible, PCWCD needed to acquire supplemental water rights for the Project. To this end, PCWCD sought out willing sellers upstream of the reservoir site. The PCWCD directors located willing sellers in Lander County, and in January 1934, entered into purchase agreements with several ranch owners in the Battle Mountain and Valmy areas. In total, PCWCD contracted to acquire more than 30,000 acres of land and appurtenant water rights from two large ranches just outside Battle Mountain, and an additional 30,580 acre-feet of water rights from nearby properties.

After PCWCD successfully located and contracted for the necessary supplemental water rights, the PCWCD directors voted to proceed with the Project. PCWCD entered into a repayment contract with Reclamation for the construction of Rye Patch Dam on October 1, 1934, and a supplemental contract dated August 8, 1941. The contract provided for the full repayment of all project-related construction and acquisition costs over a 40-year period as required under the Reclamation Act.

In late 1934, to facilitate the transfer of the water rights to PCWCD lands, PCWCD assigned its rights under the ranch and water right purchase agreements to the U. S. Government. In early 1935, the United States concluded the transactions when it purchased the land and water rights PCWCD had put under contract. The purchase price for these lands and water rights were then made a part of the District's repayment obligation to Reclamation.

Construction of Rye Patch Dam began in January 1935, and was completed in January 1936, with a design capacity of 170,000 acre-feet. Because of the drought conditions and legal problems with the Pitt-Taylor Reservoirs, Rye Patch was not initially filled to capacity.

In the early 1940s, with all water transfers completed, legal problems solved, and operating methods established, PCWCD assumed the operation and maintenance of the Humboldt Project, including Rye Patch Dam and the purchased lands in Lander County.

In 1955, PCWCD entered into a contract with the United States for the "Rehabilitation and Betterment" of works of the Humboldt Project. This contract provided for improvements to the Battle Mountain Development and Collection System, a part of which is located on the Battle Mountain Community Pasture. This contract, as well as the original construction contract, called for repayment by PCWCD for project costs as required under the Reclamation Act. Final payment of these obligations was completed in 1978.

According to the Lander County Memorandum of Agreement, at the time of purchase of the Lander County ranches, and within the area of the Argenta Ranch and the Muleshoe Ranch, there existed an area known as the Argenta Marsh. After the transfer of the water rights from Lander County ranches, and as part of the water rights change approvals, the Nevada State Engineer ordered that the lands be dewatered. In 1955, the marsh area was channelized to improve water conveyance in the Humboldt River adjacent to those lands (**Appendix E**).

In 1966, Reclamation issued a quitclaim deed for 160 acres to Lander County for a sewage disposal facility. In 1969, Reclamation issued another quitclaim deed to the State of Nevada Department of Transportation for the Interstate 80 project.

In 1975, PCWCD entered into a contract with the United States for the rehabilitation and betterment of Rye Patch Dam. The work increased the height of the dam by 3 feet and increased the storage capacity of the reservoir to 213,000 acre-feet. PCWCD has repaid the United States for the work performed.

In 1977, the United States, acting through Reclamation, PCWCD and the State entered an agreement providing for the development of public outdoor recreation facilities on Humboldt Project lands and the Rye Patch Reservoir. The parties recognized the development and use of these facilities as secondary and subordinate use to the primary purpose of water conservation for storage and irrigation. The agreement was to continue for 25 years, with the option to extend the term provided that the parties agreed to do so 1 year prior to the expiration of the initial agreement.

In the early 1990s, Reclamation determined that some modifications to Rye Patch Dam would be

necessary to protect the integrity of the actual dam structure. A restriction was placed on the dam, reducing the amount of water that could be stored in the reservoir until the work was completed. This work was completed in 1996, and Rye Patch Reservoir was refilled to a capacity of 213,000 acre-feet. PCWCD has repaid the United States for its portion of the modification costs as required under the Reclamation Act.

### 3.10.2. Identification of Cultural Resources: Results of Literature Search

A baseline Class I Inventory (literature review) was conducted in order to determine the number and location of previously identified cultural resources and previously conducted archaeological investigations within the title transfer areas. Information was obtained from the Nevada State Museum, U.S. Bureau of Land Management (Winnemucca and Elko Field Offices), and U.S. Bureau of Reclamation for the lands proposed for transfer. The Nevada State Museum provided the records search in the form of a compact disk that contained cultural resource records and inventories for the three title transfer areas and included data within a 1 kilometer buffer, presented in a Geographic Information System (GIS) format. An additional 10 resources were identified through a search of BLM files, and these were added to the Nevada State Museum GIS coverage. BLM inventory acreage totals were not added to the Nevada State Museum totals because the BLM activities were generally composed of small or linear projects, and identifying precise acreage was difficult. The amount of previous archeological inventory and the number of recorded cultural resources at each of the three title transfer areas varies considerably.

Table 3.10.1 provides information regarding the extent of survey coverage and numbers and types of identified archaeological sites within each of the three proposed transfer areas. Approximately 54 percent of lands proposed for transfer at Rye Patch has been inventoried, or else lie below the original water pool of the reservoir, prior to the dam raise (the majority of this percentage). The area between the original water line of the reservoir and the increased high water line resulting from the dam raise is the area previously surveyed (the exact acreage is not known). The amount of inventory is significant in comparison to the Battle Mountain Community Pasture and the Humboldt Sink, which have each been subject to less than 3 percent survey coverage for proposed transfer lands. It is not unexpected, as a result of this survey coverage, that Rye Patch contains 122 of 160 sites previously identified within the entire proposed title transfer area (almost 76 percent).

**Table 3.10-1**  
**Cultural Resource Information Summarized by Title Transfer Area**

Location	Acrees	Inventory Acrees	% Inv.	Total Sites	Hab	Camp	Lithic	Other	No Record	Hist	Iso
Battle Mtn	29,500	610	2.1	8	0	0	7	0	0	1	6
Rye Patch	20,820	11,210	53.8	122	13	14	75	0	10	10	34
Humboldt	32,683	879	2.7	30	6	11	5	1	1	6	4
Total	83,003	Unknown	-	160	19	25	87	1	11	17	44

- Does not include BLM acreage (see text above)

- Includes BLM sites

- Includes unsurveyed areas below the water pool of Rye Patch Reservoir and portions inventoried within and adjacent to the reservoir

Hab - habitation sites include a complexity of artifact classes and generally contain midden deposits

Camp - campsites contain a mix of two or more artifact types or classes, but generally lack midden

Lithic - lithic scatters generally contain only chipped stone artifacts

Other - rock shelters or other site types

Hist - historic resources

Iso - isolated artifacts or 3 or fewer objects

Of the eight sites previously recorded for the Community Pasture, seven are lithic scatters and one is a historic site. The Rye Patch area contains 13 habitation sites, 14 campsites, 75 lithic scatters, and 10 historic sites. Although the Humboldt Sink has been subject to significantly less survey coverage than Rye Patch, it contains six habitation sites, 11 campsites, five lithic scatters, and six historic sites. Habitation sites and campsites are representative of less transient occupations and based on this, it would appear that prehistoric groups may have favored the Humboldt Sink area for more permanent occupations. However, habitation and campsites in the Rye Patch area may have been most concentrated along the Humboldt River and such sites within the reservoir footprint would have been inundated after the construction of Rye Patch Dam. As the reservoir area was not surveyed prior to the original construction of Rye Patch Dam, these sites would be underwater or possibly covered with silt and therefore not identified. It is important to note that Rye Patch contains the NRIIP-listed Rye Patch Archaeological District (which includes three excavated habitation sites, three collected or tested habitation sites, and one collected or tested campsite).

In addition to sites previously recorded, numerous historic cultural resources such as railroads, historic-era trails (California Trail, Immigrant Trail, Applegate-Lassen Route, Truckee River Route, etc.), canals, dams, and related features (e.g., Muleshoe Ranch, Rye Patch Dam, Slaven Dam, Iron Point Relief Channel, etc.), and mines are also known to occur within the area.

### **3.10.2.1. Battle Mountain Community Pasture**

Battle Mountain Community Pasture contains the smallest number of known cultural resources of the three transfer areas, with a total of eight known sites and 610 acres inventoried (2.1 percent of the proposed transfer area). The bulk of this inventory came from a single Nevada Department of Transportation gravel pit survey (Turner 1979). The proposed gravel pit was abandoned because of the identified archaeological sites. Nearly 29,000 acres of Community Pasture lands have not been surveyed for cultural resources.

The California Trail is a special and unique historic resource that crosses all three title transfer areas (Broek 2000). As a result of the National Trails System Act (U.S.C. v.16, Section 1241-1251), the National Park Service (NPS) recognized the California National Historic Trail. This trail is significant because “it is one of the major highways of the 19<sup>th</sup> Century, which provided a 2,400-mile path for emigrants to the West” (NPS 1999:25). The California Trail was used in one of the largest overland migrations in American westward expansion resulting from the California Gold Rush.

Remaining physical evidence of the California Trail varies considerably. NPS recognizes “high-potential route segments” and “high-potential historic sites” that capture scenic, educational, or interpretive values associated with this early travel route. Several segments of the trail and related sites occur within the title transfer. The Oregon-California Trail Association (OCTA) has mapped the entire route and classified trail segments based on condition and integrity using a rating system ranging from Levels 1 to 6. Segments rated from Levels 1 to 4 are considered high value, potentially eligible for inclusion in the National Register. Those segments identified as Level 5 or 6 lack integrity and are considered potentially ineligible for inclusion in the National Register.

### **3.10.2.2. Rye Patch Reservoir**

Rye Patch Reservoir has received the greatest amount of archaeological work of the three transfer areas, largely because of extensive work by the Nevada State Museum in support of a 3-foot raise of Rye Patch Dam (Ruseo 1976; Ruseo and Davis 1982, 1987; Ruseo and Jensen 1976; Ruseo et al. 1977; Ruseo et al. 1979). This extensive inventory examined the entire perimeter of the reservoir from the existing water level to the proposed high water mark (exact acreage is not known). This work and other BLM studies

account for 122 known cultural resources within the transfer area, including 13 habitation sites, 14 campsites, 75 lithic scatters, 10 historic sites, and 10 sites for which site record forms are missing. An additional 34 isolated finds have been noted. Approximately 9,600 acres, located above the high water level of Rye Patch Reservoir, have not been surveyed for cultural resources.

The Nevada State Museum conducted additional archaeological research at Rye Patch Reservoir “to mitigate adverse effects of the construction of an addition to Rye Patch Dam” (Ruseo and Davis 1982:4). Several archaeological sites were subject to surface collections and test excavations during this field work. Several sites received a considerable amount of excavation because these sites contained substantial deposits, and the presence of buried deposits offered significant research potential. Recognition of the data collected and the potential for additional studies led to the listing of seven archaeological sites (26Pe365, -366, -388, -390, -428, -435, and -450) on the National Register of Historic Places as part of the Rye Patch Archaeological District. The age of the archaeological sites ranged from the Western Pluvial Lakes Tradition to the late prehistoric period, a span of more than 8,000 years.

Despite the previous inventory efforts, challenges exist with the archaeological data from Rye Patch Reservoir. Cultural resources were not fully recorded if they extended beyond the high water mark of the proposed reservoir increase. A number of site records note that boundaries extended beyond the impact area and the full extent of the site was not determined. The site records were created before the advent of the Intermountain Antiquities Computer System (IMACS) site recording forms. Most existing records are simple one-page summary sheets with general information that do not meet contemporary documentation standards.

The distribution of archaeological sites at Rye Patch Reservoir is interesting because of the difference in number of sites between the east and west sides of the reservoir. The east side contains substantially more archaeological sites than the west side. A linear density of 1.4 sites per mile along the reservoir edge on the east side, versus 1.0 site per mile for the west side, hints at the variation. There are large breaks in the distribution of archaeological sites on the west side of the reservoir, as opposed to the east side. The lower density of sites may be caused by different ecological circumstances. The west side opens to a broad, rather featureless valley floor, whereas the east side allows for access to adjacent mountainous ecosystems.

### **3.10.2.3. Humboldt Sink**

The Humboldt Sink, as terminus of the Humboldt River, attracted Native American use for millennia, as people came to exploit the natural resources that developed around the marsh environments and intermittent open-water environments. In the twentieth century, the complexity and number of archaeological sites also attracted archaeological investigations by the University of California and others (Bard et al. 1981; Livingston 1986; Loud and Harrington 1929). Initial work began in 1912 and continued for more than 50 years as archaeologists surveyed and excavated rock shelters and open sites in the region. Bard et al. (1981) present a summary of this early work. More recently, compliance with the NHPA has driven archaeological work, with an emphasis on inventory. Despite the abundance of work in the region, less than 3% of the title transfer lands in the Humboldt Sink have been inventoried to current standards and approximately 31,800 acres have not been surveyed for cultural resources.

There are noteworthy archaeological sites that have contributed to our understanding of Great Basin and Nevada prehistory within and adjacent to title transfer lands. Lovelock Cave, Humboldt Cave, and Leonard Cave are found in the Humboldt Range, west of the Humboldt Sink, not far outside title transfer lands. These sites contributed extensive artifact collections and chronological knowledge leading to a better understanding of lacustrine adaptations. Granite Point Cave, test excavated in the 1930s and reported by Rouse (1966), lies just outside the transfer area.



The Humboldt Lakebed Site, 26Ch45 (26-CH-15, University of California) is an important archaeological site included within the title transfer. This site was originally recorded by Loud and Harrington (1929) in their Lovelock Cave Report. Early collections and human remains were removed from this site and additional collections and excavations were also performed in the 1960s (Irvingston 1986). Site 26Ch45 is the type site for the Humboldt projectile point series. The site contains an extensive deposit of features, house floors, and artifacts. Pit features of various kinds totaled 719; these were identified as burial pits, storage pits, hearths, smudge pits, seep pits, and house pits (Irvingston 1986). At least 34 of the 173 features identified as house pits were excavated in 1969, but this work has not been fully reported.

Attempts to relocate 26Ch45, as well as several other sites originally reported by Loud and Harrington (1929), during recent field visits to the area were not successful. A flood in 1983 deposited silt and sediment over a large area of the Humboldt Sink, and archaeologists now think that numerous sites, including the Humboldt Lakebed Site, may be buried by the flood deposits (Hutton 2004, McGuckian 2004). The 1983 flood also resulted in the growth of extensive groves of tamarisk that are extremely dense in some places, obscuring the visibility of cultural resources and complicating potential field inventory.

### **3.10.3. Environmental Impacts**

#### **3.10.3.1. Proposed Action/Preferred Alternative**

This action would transfer lands out of federal ownership, and into local and State jurisdiction. As a result, cultural resources on transferred lands would no longer be subject to key federal statutes and regulations governing cultural resources (e.g., NHPA, ARPA, NAGPRA).

Under the Proposed Action, the federal government would transfer ownership of land to PCWCD, State, and county ownership, and potentially private ownership should any of the receiving entities dispose of the transfer lands. Section 106 regulations state that adverse effects on historic properties include, but are not limited to the “[t]ransfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property’s historic significance” [36 CFR Part 800.5(a)(2)(vii)].

While the State of Nevada has a historic preservation statute, the State Historic Preservation Officer (SHPO) and Reclamation have concluded that the law is an inadequate substitution for NHPA, ARPA, and NAGPRA to ensure the long-term preservation of properties’ historic significance.

Section 106 Regulations of the NHPA provide that “[t]he agency official shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey” [36 CFR Part 800.4(b)(1)]. Identification efforts suggested for this undertaking will comply with the aforementioned regulation, and will include the following:

1. Reclamation is developing a strategy for the identification of historic properties in the title transfer. This inventory will emphasize archaeological resources, but specific methods are being developed to identify historic resources and traditional cultural properties. PCWCD, interested parties, and tribal entities will have an opportunity to comment on the development of this plan. The final inventory strategy will be determined by Reclamation in consultation with the SHPO per 36 CFR 800.4(a). To comply with the identification process in 36 CFR 800.4(b) additional inventories will be necessary following the initial inventory.

2. Identified cultural resources will be evaluated for inclusion into the NRHP per 36 CFR 800.4(e) and 36 CFR 63. Any historic properties identified will be subject to adverse effects as a result of the title transfer (36 CFR 800.5(a)(2)(vii).

The total range and complexity of historic properties remain to be determined. A Programmatic Agreement (PA) would be developed among SHPO, Reclamation, and consulting parties to describe responsibilities of recipient entities towards consideration of historic properties.

The means of resolving adverse effects to historic properties recorded within the title transfer areas are difficult to project at this time because identification efforts have not yet been completed. One or more of the following measures may be used to resolve adverse effects, acknowledging that actual mitigating measures will occur through consultation between Reclamation, the Nevada SHPO, and consulting parties in the Section 106 process. These include:

1. Preparation of a management plan to guide consideration of known historic properties. This plan may also provide for inventory and evaluation of resources on as yet unsurveyed portions of transferred lands. The plan can investigate alternatives for protection of historic properties through fencing, road closures, and other forms of limiting access. Any management plan will include a monitoring section to evaluate the effectiveness of the proposed actions.
2. Other strategies to comply with 36 CFR Part 800.5(a)(2)(vii) are also being considered including imposing "adequate and legally enforceable restrictions or conditions" on the properties to ensure long-term preservation of the property's historic significance as well as leaving or returning certain historically significant properties to federal ownership. The latter may be considered if some historic properties exist that are of such significance that excising them from the transfer would be considered.
3. Mapping, excavation, or other forms of data recovery may be required at some historic properties. All work done under this approach would be preceded by a research design that follows SHPO's Guidelines for Section 106 Submissions and the Secretary of Interior's Standards and Guidelines for Archeology and Historic Preservation.
4. Existing notes of previously recorded archaeological sites housed at the University of California, Berkeley and other institutions may can be obtained and reproduced. Recovered assemblages curated at such institutions may be analyzed and a report prepared as part of mitigating measures. The results of some early work have never been presented, and some collections remain unanalyzed. Some sites are now covered with sediment and no longer have visible surface materials.

As consultation continues and the Section 106 compliance process for the Humboldt title transfer progresses, strategies for resolving adverse effects will continue to be discussed and developed.

### **3.10.3.2. No Action Alternative**

Under the No Action Alternative, ownership of federal lands would not be transferred to any party being considered under this proposal. Provided that Reclamation adheres to applicable cultural resources laws, no historic properties would be adversely affected by the No Action Alternative. Cultural resources would remain in federal stewardship and be subject to consideration under federal legislation such as NEPA, ARPA, NHPA, and NAGPRA.

### **3.11. INDIAN TRUST ASSETS**

Indian trust assets are legal interests in property or natural resources held in trust by the United States for Indian Tribes or individuals. The Secretary of the Interior is the trustee for the United States on behalf of Indian Tribes. Examples of trust assets are lands, minerals, hunting and fishing rights, and water rights. The Western Nevada Office of the Bureau of Indian Affairs was contacted in May 2004. Indian Trust Assets were assessed in this EIS for the Lovelock Paiute Tribe, the Battle Mountain Band of the Te-Moak Tribe and the Fallon Paiute-Shoshone Tribe.

The Battle Mountain Band of the Te-Moak Tribe has its colony 1 mile west of the unincorporated town of Battle Mountain near the Battle Mountain Community Pasture portion of the project. There is an ongoing dispute and litigation brought by the Te-Moak Tribe concerning tribal lands claimed under the treaty of Ruby Valley. Until final settlement of the claim, trust assets must be assessed based on the current status. Therefore, there are no trust assets affected by the project.

The Lovelock Paiutes are located in the town of Lovelock, Nevada. The Fallon Paiute-Shoshone are located near the town of Fallon, Nevada. No trust assets were identified for either tribe.

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## CHAPTER 4 – OTHER NEPA CONSIDERATIONS



## 4.0 OTHER NEPA CONSIDERATIONS

### 4.1. CUMULATIVE IMPACTS

A cumulative impact is an impact that results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes other such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

The Proposed Action would transfer lands from federal ownership to the PCWCD, the State of Nevada, and Pershing and Lander Counties. With the exception of the 5,850 acres in the Community Pasture proposed to be transferred to the State of Nevada, and the isolated parcels proposed to be transferred to Pershing and Lander Counties, there would be no substantial change in overall resource management by the receiving entities. PCWCD would continue to operate the Rye Patch Dam and Reservoir in a manner consistent with its current contract(s) with Reclamation. The 22,500 acres within the Community Pasture will continue to be managed and operated for livestock grazing by PCWCD patrons. The State would continue to manage lands within the Humboldt Sink as a Wildlife Management Area and would continue to manage the Rye Patch State Recreation Area.

Future uses of the land proposed for transfer to the State of Nevada in the Community Pasture and the isolated parcels proposed to be transferred to Pershing and Lander Counties, may result in cumulative land use impacts when considered in combination with the effects of development by others (existing and planned) within the project area.

Under the Proposed Action, Pershing County would receive withdrawn lands adjacent to Derby Airfield, the county's airport. Pershing County is planning to develop an Airport Master Plan, which may include economic development of the transferred lands. With the development of Derby Field, county planners anticipate that the site could provide additional growth to the local economy, although the current pattern of use is unlikely to be affected.

Lander County would receive title to approximately 1,100 acres of lands in or near the Community Pasture. The proposed expansion of the County Fairgrounds adjacent to the Livestock Events Center and the reuse of the maintenance shop would occur on lands that are already developed.

The 932-acre parcel adjacent to the sewage treatment plant will transfer to Lander County for potential industrial development. The area is currently zoned as Industrial. Transfer of these lands from federal to county ownership may change the rate of growth in this area because these lands would be available for industrial development in the future. Any development would be subject to applicable Lander County Zoning regulations. The county should review future proposed industrial development to assure that there would be no adverse effects to groundwater quantity and quality that could impact the Humboldt River and either no direct discharges to the Humboldt River or limited discharges that meet federal and State requirements. Provided that future industrial development did not affect the quality of water in the Humboldt River and associated lowland riparian habitats, no adverse secondary or indirect impacts of industrial development of this parcel are anticipated.

Development of a low-maintenance primitive day-use recreational area, parking lot, and river easement adjacent to State Route 806 and the Humboldt River south of White Bridge has the potential to increase recreation use in the area. The parking and primitive recreation area and access easement along the river would provide public access to the river and riparian corridor and offer hiking, hunting, fishing, and wildlife viewing opportunities. Impacts of increased use include soil compaction, litter control, and

safety issues. The easement provides an official dedication of an area unofficially used by hunters, fishermen, and other recreational users to access the Humboldt River with PCWCD permission and establishes Lander County as the official party responsible for managing this easement. Potential impacts resulting from increased public use of the river corridor resulting from the establishment of an official parking lot and public access easement could be offset by improved management by the county, including controlled access gates, signage, and regular patrols.

Under the Proposed Action, the State of Nevada would receive title to approximately 5,850 acres of Community Pasture lands. These lands are proposed for management by NDOW for the purpose of wetland development (Hunt 2004). It is NDOW's goal to restore up to 2,000 acres of wetlands and lowland riparian habitat, but specific management plans, including water sources for recovery and vector control, have not been finalized. Restoration of these lands would attract hunters, anglers, wildlife watchers, and other recreational users and tourists, potentially providing added economic benefit and diversity to the region. These benefits would be directly related to the ability of the State to obtain the water rights and successfully implement the comprehensive master plan for wetland and riparian restoration.

In conclusion, no adverse cumulative impacts on the environment are expected to occur as a result of the proposed title transfer when considered together with other past, present, or reasonably foreseeable future actions.

## **4.2. SHORT-TERM USES OF THE ENVIRONMENT AND LONG - TERM PRODUCTIVITY**

NEPA requires consideration of the relationship between short-term uses of the environment and long-term productivity associated with a proposed action. The Proposed Action is an administrative action that would not result in a direct physical change to the environment.

Under the Proposed Action, PCWCD would obtain legal title to land, water, and facilities for which it has paid in full. This ownership change will allow greater control and accountability of lands currently managed by PCWCD. Centralized control of lands currently managed by PCWCD will provide greater certainty and financial stability for future planning. The State of Nevada would obtain legal title to lands it has historically managed at the Humboldt WMA and at Rye Patch Reservoir. This ownership change will allow the State to better plan for future recreational and wildlife resource needs in these areas. PCWCD has agreed to maintain a 3,000 acre-foot minimum operational pool at Rye Patch Reservoir, thereby allowing the State to manage fishery resources more effectively.

The State would receive approximately 5,850 acres of lands within the Battle Mountain Community Pasture for the potential development of wetland habitat. Transfer of these lands to the State would impose a short-term economic impact to PCWCD by reducing the number of acres available for livestock grazing. Under the Conceptual Memorandum of Agreement between PCWCD and the State of Nevada, PCWCD may continue to graze livestock on these lands until development of wetlands begins. Subsequent to wetlands development, NDOW would allow continued grazing in restored habitat if it is a viable invasive and noxious weed control vegetation management practice, with the grazing pursuant to a Grazing Plan developed by a mutually accepted range consultant.

Pershing County would receive ownership of lands occupied by the Derby Airport, allowing better control of future airport development and expansion. Lander County would receive lands beneath the existing rodeo grounds and surrounding acreage for future expansion of the facilities, industrial lands adjacent to the sewage treatment plant, and lands for the potential development of enhanced recreational



opportunities along the Humboldt River. Ownership of these lands will allow Lander County to incorporate these lands in future planning decisions.

Receipt of these lands by the PCWCD, State of Nevada, and Pershing and Lander Counties would reduce the amount of lands in federal control, but will allow greater control and future planning by the receiving entities.

### **4.3. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES**

*Irreversible commitments* are decisions affecting renewable resources such as soils, wetlands, and waterfowl habitat. Such decisions are considered irreversible because their implementation would affect a resource that has deteriorated to the point that renewal can occur only over a long period of time or at great expense, or because they would cause the resource to be destroyed or removed.

*Irretrievable commitment* of natural resources means loss of production or use of resources as a result of a decision. It represents opportunities forgone for the period of time that a resource cannot be used. Irretrievable refers to the permanent loss of a resource including production, harvest, or use of natural resources. For example, production or loss of agricultural lands can be irretrievable, while the action itself may not be irreversible.

The transfer of land from the federal government to the PCWCD, State of Nevada, and Pershing and Lander Counties would not cause any direct physical impacts to existing biological, cultural, or physical resources. The title transfer in and of itself would not result in any operational changes or other physical impacts that would irreversibly or irretrievably commit renewable resources from this federal action. Development of lands near project lands may occur in the future. However, because these decisions are vague, speculative, and will depend on a number of future political, planning, zoning, and economic factors, they cannot be solely attributed to this federal title transfer action, but instead will result from the outcomes of these future, uncertain decisions and processes.

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## **CHAPTER 5 – CONSULTATION AND COORDINATION**



## **5.0 CONSULTATION AND COORDINATION**

This chapter summarizes the consultation and coordination that Reclamation has conducted with various state, federal, and local agencies while preparing for and compiling the EIS. The PCWCD participated in the consultation and coordination activities as a cooperating agency in this EIS. Consultation and coordination will continue through the preparation of the Final EIS.

### **5.1. PROJECT SCOPING**

The scoping process provides the federal, state, and local agencies; organizations; tribes; and interested individuals the opportunity to provide input on key issues and concerns that they believe should be evaluated in the EIS.

The objectives of scoping for the Proposed Project included:

- Identification of significant issues related to the proposed title transfer,
- Determination of the range of alternatives to be evaluated,
- Identification of environmental review and consultation requirements,
- Identification of interested and affected public, and
- Provision of information to the public regarding the project.

Two notices were published in the Federal Register regarding the proposed title transfer. The first notice was published on February 26, 2003 [68 FR 8924] and indicated Reclamation's intent to prepare an EIS. The second notice, a Notice of Public Scoping, was published in the Federal Register on January 14, 2004 [69 FR 2157] and announced that two scoping meetings would be conducted in February 2004 to receive public input on issues to be addressed in the draft EIS. In addition, a scoping letter was mailed to approximately 250 federal, state, and local agencies; organizations; tribes; and interested individuals. Notices were also placed in four local newspapers (Reno-Gazette Journal, February 15-19, 2004; The Humboldt Sun, February 13-16, 2004; The Lovelock Review-Miner, February 12, 2004; and the Elko Daily Free Press, February 9, 2004).

The scoping meetings were held on the dates and locations listed below:

- February 18, 2004, Battle Mountain Civic Center, Battle Mountain, Nevada
- February 19, 2004, Washoe County Bartley Ranch Park, Reno, Nevada

Approximately 26 people attended the Battle Mountain and Reno meetings. An interagency scoping meeting was also held during the day on February 19. Sixteen comments were received during the scoping meetings and 23 letters and e-mails were received by Reclamation during and immediately after the comment period.

### **5.2. FEDERAL AGENCY COORDINATION**

#### **5.2.1. U.S. Fish and Wildlife Service**

Under Section 7(a)(2) of the ESA, 16 USC, § 1536(a)(2), each federal agency must, in consultation with the Secretary of the Interior, ensure that any discretionary action authorized, funded, or carried out by the agency "is not likely to jeopardize the continued existence of any [listed] species or result in the

destruction or adverse modification” of designated critical habitat. To assist agencies in complying with the requirements of Section 7(a)(2), the statute and implementing regulations set out a detailed consultation process for determining the biological impacts of a proposed discretionary activity. The consultation is described in regulations promulgated at 50 CFR § 402.

By letter to the FWS on February 14, 2003, Reclamation requested a list of special status species (i.e., endangered, threatened, and candidate species) in the project area to help focus the biological resources assessment (**Appendix II**). The FWS responded by letter on March 3, 2003 to Reclamation providing a list of endangered species that may potentially occur in the project area. Greystone staff biologists met with FWS and NDOW in April 2004 to obtain additional information regarding habitat conditions and potential species that may occur on lands proposed to be transferred. Consultation and coordination with the FWS and other federal and state agencies will continue through the preparation of the Final EIS.

### **5.2.2. National Historic Preservation Act Compliance**

Section 106 of the NHPA of 1966 requires that federal agencies take into account the effects of their actions on historic properties and to afford the Advisory Council on Historic Preservation (Council) a reasonable opportunity to comment when an action will have an effect on historic properties. The “Protection of Historic Properties” (36 CFR Part 800) defines the process of implementing requirements of Section 106, including procedures for determining project effects and mitigating adverse effects on historic properties, in consultation with the appropriate State Historic Preservation Office, the Council, relevant Tribes, and other parties.

Pursuant to Section 106 regulations, Reclamation shall involve consulting parties in findings and determinations made during the Section 106 process pursuant to 36 CFR 800.02 (4). In addition to the State Historic Preservation Officer and Indian tribes, representatives of local government with jurisdiction over the area in which the effects of an undertaking may occur are entitled to participate as consulting parties (36 FR 800.2(3)).

The first step of the Section 106 process, as set forth at 36 CFR 800.3(a), is for the agency official to “determine whether the proposed federal action is an undertaking as defined in § 800.16(y) and, if so, whether it is a type of activity that has the potential to cause effects to historic properties.” Reclamation has determined that the Proposed Action Preferred Alternative meets the definition of an undertaking, and that the undertaking has the potential to affect historic properties because lands will be transferred from federal ownership. Reclamation is consulting with the Nevada SHPO regarding the identification of historic properties in the project area. Because title transfer, by definition, is an adverse effect to historic properties, Reclamation will notify the Council of the finding pursuant to 36 CFR 800.6(a)(1) once the inventory and evaluation are complete. If the consulting parties agree that a PA should be prepared pursuant to 36 CFR 800.14(b), Reclamation shall invite the Council to participate in the consultation as specified at CFR 800.6(a)(1)(1)(C). Reclamation consulted with interested Tribes, the Lovelock Indian Colony and the Battle Mountain Band of the Te-Moak, regarding sites of religious and cultural significance within the title transfer area, and will continue to do so as the Section 106 process proceeds.

### **5.2.3. Indian Trust Assets**

Indian trust assets are legal interests in property or natural resources held in trust by the United States for Indian Tribes or individuals. The Secretary of the Interior is the trustee for the United States on behalf of Indian Tribes. Examples of trust assets are lands, minerals, hunting and fishing rights, and water rights.

### **5.3. STATE AND LOCAL AGENCY COORDINATION**

Since 1996, Reclamation in cooperation with the PCWCD has been engaged in ongoing communications and negotiations with the Nevada Department of Conservation and Natural Resources, including the Division of State Parks and the Division of Water Resources, the Nevada Department of Wildlife, representatives from Lander and Pershing Counties, and members of the Office of the Governor, and other elected officials at the state and local level.

Subsequent to these negotiations, terms and conditions of the title transfer were drafted and set forth in the MOA between PCWCD and Lander County dated January 24, 2000; the Letter of Agreement between Pershing County and State of Nevada dated April 16, 2002; and the MOA between PCWCD and the U. S. Bureau of Reclamation dated May 6, 2004. Consultation and coordination activities with affected state and local agencies will continue throughout the NEPA process.

### **5.4. NON-GOVERNMENTAL ORGANIZATIONS AND GENERAL PUBLIC COORDINATION**

Since 1996, Reclamation and PCWCD have met with a number of environmental groups, mining groups, and citizens interested in the project area. Coordination with these groups has included individual and group meetings, followed by written correspondence and telephone calls.

Prior to the Notice of Intent (NOI) to prepare this EIS, Reclamation staff and PCWCD met with members of the Lahontan Audubon Society, the Toiyabe Chapter of the Sierra Club, Ducks Unlimited, Barrick Mining Group, the Humboldt River Basin Water Authority, and other stakeholders to solicit comments and to understand areas of concern. Coordination with non-governmental agencies and the general public will continue with the issuance of the Draft EIS, with an accompanying invitation to provide comments and notification of hearings to receive public comment on the Draft EIS.

### **5.5. DISTRIBUTION LIST**

Reclamation sent the following offices, organizations, individuals, and media outlets either a copy of the Draft EIS, a letter notifying the recipient of the draft EIS availability, or a press release.

3-H Corporation, Karl Hostman	Bishop, Franklin
Am-Ares of Nevada	BLM - Battle Mountain, Jim Curryan
Anker Ranch/Ankers Inc	BLM - Battle Mountain, Jon Sherve
Arias, Jose C	BLM - Battle Mountain, Mike Neff
Arias, Ricardo & Phyllis	BLM - Elko, Bill Lawcett
ATI Systems International	BLM - Elko, Cathie Jensen
Audubon Society, Phyllis Jo Dean	BLM - Elko, Donna Nyrehn
Autdermaur, John & Bobbie	BLM - Reno, Bob Abbey
Bales, Steven & Nancy	BLM - Reno, Dennis Samuelson
Battle Mountain Band - Te-Moak Shoshone, Greg Holley	BLM - Winnemucca, Barbara Kehlberg
Battle Mountain Band - Te-Moak Shoshone, Joe Holley	BLM - Winnemucca, Jeff Johnson
Battle Mountain Band - Te-Moak Shoshone, Lydia Johnson	Bray, Terry
Battle Mountain Branch Library	Brinkerhoff Ranches
Battle Mountain Bugle, Jan Ehler	Brinkerhoff, Allen
Battle Mountain Chamber of Commerce, Shar Peterson	Brinkerhoff, Gene & Teresa
Battle Mountain Rod & Gun Club, Herb Buhl	Brinkerhoff, Walter
Bendure, Ted	Brooks, Tom & Joan
Bennett, Mark	Bumpus, Carle & Patrick
Benolkin, Philip & Carl	Bureau of Indian Affairs, Tom Strekal
Bing, Peter	Bureau of Reclamation - Bob Shaffer

Burrows, Ronnie  
 Carpenter, John Kenneth  
 Carter, Lawrence & Gwen  
 Ceresola, Cyndy  
 Cerini, Frank & Diane  
 Cerini, Susan  
 Chadek, Lynne M  
 Chazier, Jerry  
 Churchill County Museum, Jane Pipelow  
 Clinger Ranch  
 Consolidated Farm Service Agency, Bob Baldwin  
 Consolidated Land & Livestock  
 Cooney, Robert & Loretta  
 Crimmins, Duane D  
 Crofoot, Dan  
 Daoust, Robert & Carol  
 Davenport, Jerry  
 Davis, Dave  
 Denier, William & Dale  
 Denio, Karen  
 Dennler, Herman  
 Detweiler, Ken  
 Dick and Pauleta Souza  
 Dickerson, Richard  
 Ducks Unlimited, Inc., John Nagel  
 Echeverria, Paul & Sally  
 Elko County Conservation Association, Merlin McCollm  
 Elko County Library, Patrick Dunn  
 Elko Daily Free Press, Adella Harding  
 Elko Daily Free Press, Jeff Mullins  
 Elko Land & Livestock, Ron Powell  
 Environmental Defense Fund, David Yandas  
 Espinosa, Ray  
 Fallon Paiute-Shoshone Tribe, Alvin Moyle  
 Fisk, Walter M  
 Fox, Daniel & Susan  
 Francke, Robert  
 Frank R. Maxwell, Nevada Wildlife Federation, Inc.  
 Gibbons, James A  
 Gibson, Bob  
 Giudici, Jim  
 Gonsalves, Stanley  
 Goodin, James  
 Goodman, Bob  
 Gottschalk, John & Eleanor  
 Gottschalk, Mike & Mikey  
 Great Basin Bird Observatory, Ed Eidel  
 Great Basin Bird Observatory, Elizabeth Ammon  
 Hansen, Vernice  
 Harman, Mike  
 Heap, Richard  
 Heinz, Dan  
 Hmelspach, Gerald  
 Hoevet, Janet  
 Holcher, Paul  
 Hooper, Bobby W.  
 Humboldt County Commissioner, Dan Cassinelli  
 Humboldt County Court House Library  
 Humboldt County Library, Jeff Marcink  
 Humboldt Feeding Inc.  
 Humboldt Museum, Judy Adams  
 Humboldt River Basin Water Authority, Mike Baughman

Humboldt River Basin Water Authority, Paul Miller  
 Humboldt-Toiyabe National Forest, Tom Baker  
 Intermountain Farm Credit, Scott McKinley  
 Intermountain Range Consultants, Bob Schweigert  
 Intermountain West Joint Venture, Jim Cole  
 Irvin, Larry  
 Jackson, Jason  
 Jackson, Shelly  
 Johnson Ranch, Dale Johnson  
 Keil, Rusty  
 Kernen, Joyce R.  
 Kiel, Ronald  
 King, Donald  
 Knight, Dan  
 Knisley, C. Ray & Barbara  
 Knisley, Dan & Tracey  
 L. & B. Galli, H. & S. Van Vliet  
 Lahontan Audubon Society, Ed Mark  
 Lahontan Audubon Wetlands Coalition, Jane Sunday  
 Lahontan Wetland Coalition, Bob Goodman  
 Lahontan Wetland Coalition, Ed Tilzey  
 Lahontan Wetland Coalition, Norm Saake  
 Lahontan Wetland Coalition, Rose Strickland  
 Lahontan Wetland Coalition, Tina Nappe  
 Landa, John & Kathryn  
 Lander County Advisory Board, Tony Carone  
 Lander County Assessor's Office, Luva Duvall  
 Lander County Commissioner, Mickey Yarbrow  
 Lander County Commissioners Office  
 Lander County Conservation District, Jerry Nuefeld  
 Lander County Court House Library  
 Lander County Economic Development Authority,  
 Deborah Hinze  
 Latter Day Saints Church, David Knight  
 Leland Campsey, Natural Resource Conservation Service  
 Lenz, Joel  
 List Cattle Co  
 List, Jim  
 Lovelock Paiute Tribe, Alfred Happy,  
 Lovelock Paiute Tribe, Harry & Nancy Summerville  
 Lovelock Paiute Tribe, Monte George  
 Lovelock Paiute Tribe, Richard Happy  
 Lovelock Paiute Tribe, Stephanie Stairwalt  
 MacDougall, Steven  
 Mancero, Roger  
 Marcuerquaga, Rosie  
 Martin, Les  
 Marvel, John  
 McDougal Livestock Co.  
 McDougal, Richard  
 Medeiros, John  
 Meinle, Leona  
 Mendenhall, Frank & Marion  
 Monroe, Ethel U  
 Monroe, Robert L. & Robin  
 Montrose, Karl Hugh & Sharon  
 Mori Ranches, Nelo Mori  
 Moura, Tom & Darlene  
 Munk Brothers Ranch, Paul Davidson  
 Munk, Devoy  
 Munk, Gerald  
 National Audubon Society



Natural Resource Conservation Service, Craig Plummer  
 Natural Resource Conservation Service, Jim Evans  
 Natural Resource Conservation Service, Mel Cheney  
 Natural Resources Defense Council, Hal Candee  
 Neeley, Dorothy  
 Nevada Archaeological Association, Alanah Woody  
 Nevada Archaeological Association, Oyvind Frock  
 Nevada Cattlemen's Association  
 Nevada Cattlewomen's Association, Mary Eldridge  
 Nevada Department of Water Resources, Hugh Ricci P.I.  
 Nevada Department of Water Resources, Michael Anderson  
 Nevada Department of Water Resources, Robert Martinez  
 Nevada Department of Wildlife, Jim French  
 Nevada Division of State Lands, Pam Wilcox  
 Nevada Division of State Lands, Ruth Danner  
 Nevada Division of State Parks  
 Nevada Division of State Parks, Allen Newberry  
 Nevada Division of State Parks, David Morrow  
 Nevada Division of State Parks, Gary Orr  
 Nevada Division of State Parks, Steve Weaver  
 Nevada Division of State Parks, Wayne Perock  
 Nevada Division of Wildlife, Bob McQuivey  
 Nevada Division of Wildlife, Doug Hunt  
 Nevada Division of Wildlife, Terri Crawforth  
 Nevada Farm Bureau  
 Nevada Important Bird Areas Program, Don McIvor  
 Nevada Rock Art Foundation  
 Nevada State Clearinghouse  
 Nevada State Library  
 Nevada State Museum, Eugene Hutton  
 Nevada Watertown Association, Clint Wells  
 Nevada Watertown Association, Hugh Judd  
 Nevada Watertown Association, John Rogers  
 Nevada Wildlife Federation, Chris Miller  
 Nevada Wildlife Federation, Gale and Elsie Dupree  
 Nevada Wildlife Federation, Karen Boeger  
 Nevada Wildlife Federation, Ruby Rowan  
 Odle, Keith & Diane  
 Oregon California Trail Association, Leslie Fryman  
 Payne, Albert  
 PCWC/D, Bennie Hodges  
 Pennington, Rebecca  
 Pershing County Board of Education  
 Pershing County Court House Library, Elizabeth Gonzalez  
 Pershing County District Attorney's Office, Jim Shirley  
 Pershing County Library, Jeanne Munk  
 Phelps, R. C.  
 Public Resource Associates, Susan Lynn  
 Pulver, Ken  
 Quadrio, Lawrence  
 Renfro, John & Nancy  
 Reno County Library  
 Reno Gazette-Journal, Jeff Delong  
 Rezek, Shirley  
 Rhoads, Dean  
 Rodabaugh, Kelly Ray  
 Rose, Peggy  
 Ruthertford, Frank A.  
 Safford, James  
 Sample, Calvin & Billie  
 Saralegui, Geraldine  
 Schein, Robert  
 Schroeder Law Offices  
 Senators Harry Reid's Office, Mary Connelly  
 Sevon, Mike  
 Shepherd, Shirley  
 Sill, Marge  
 Sims, Don & Martha  
 Smith, Douglas  
 Starr, Craig  
 State Historic Preservation Office, Alice Baldrice  
 State Historic Preservation Office, Rebecca Palmer  
 State of Nevada, Governor Kenny Guinn's Office  
 Stovall, Sean & Nan  
 Tenente, Alfonso  
 The Humboldt Sun  
 The Lovelock Review-Miner  
 The National Wildlife Federation  
 The Nature Conservancy of Nevada  
 The Oasis at Rye Patch, Astrid & Casey Mahaney  
 Thompson, Helen  
 Thoms, Al  
 Thomsen, Olat & Maxine  
 Three Bar S Ranch, Craig Starr  
 Toiyabe Chapter of the Sierra Club, Dennis Ghighen  
 Toiyabe Chapter of the Sierra Club, Rose Smith  
 Toiyabe Chapter of the Sierra Club, Rose Strickland  
 Tomera Ranches, Dan Tomera  
 Tomera Ranches, Lynn & Pete Tomera  
 Tomera Ranches, Paul & Paula Tomera  
 Trout Unlimited, Joe McGurran  
 Trout Unlimited, Matt Holtford  
 Trout Unlimited, Steve Moyer  
 U.S. Geological Survey, Russell W. Plume  
 U.S. Bureau of Reclamation, John Keys  
 U.S. Fish and Wildlife Service, Bob Williams  
 U.S. Fish and Wildlife Service, Chad Mellison  
 United States Senate, Harry Reid  
 United States Senate, John Ensign  
 University of California at Davis, Eric Larsen  
 Vera Smith Insurance, Donna L. Campbell  
 Vera Smith Insurance, Vera Smith  
 Verdi Community Library & Wildlife Education Center  
 Wagner, Ed  
 Waite, Mark  
 Washoe County Library (Courthouse)  
 Watson, Charles S.  
 Weagant, Theyel J.  
 Western Range Service, Al Steninger  
 Winnemucca Council Colony, Bill Williams  
 Worley, David  
 Yearman, Scott  
 York, Gary & Shirley  
 Young Enterprises

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## GLOSSARY



## 6.0 GLOSSARY

Abutment - a structure that supports the ends of a dam or a bridge.

Acquired lands - lands where title has been obtained from non-federal sources by purchase, donation, exchange, or condemnation, and some portion of whose cost has been charged to the project's construction costs. This term applies to easements as well as fee title lands.

Acre-foot - measure of volume that would cover 1 acre to a depth of 1 foot. One acre-foot is approximately 325,851 gallons.

Active storage - reservoir capacity that can be used for authorized purposes.

Advisory Council - refers to the Advisory Council on Historic Preservation.

Affected environment - existing biological, physical, social, and economic conditions of an area subject to change, both directly and indirectly, as the result of a proposed human action.

Allocation, allotment - refers to a distribution of water through which means specific persons or legal entities are assigned individual rights to consume pro rata shares of a specific quantity of water under legal entitlements.

Alluvium - sedimentary material transported and deposited by the action of flowing water.

Ambient - surrounding natural conditions (or environment) in a given place and time.

Apportionment - refers to the distribution of water available to each water right holder.

Aquifer - a geologic formation that contains sufficient saturated materials to be capable of storing and transmitting water in usable quantities to a well.

Benthic - bottom of rivers, lakes, or oceans; organisms that live on the bottom of water bodies.

Candidate species - plant or animal species not yet officially listed as threatened or endangered, but which is undergoing status review by the FWS.

Catch - at a recreational fishery, refers to the number of fish captured whether they are kept or released.

Consumptive use - the use of water by plants, animals, or humans. This includes evapotranspiration but does not include water that returns to the surface or groundwater system.

Cooperating Agency - with respect to the NEPA process, an agency having jurisdiction by law or special expertise concerning an aspect of a proposed project action that is requested by the lead agency to participate in the preparation of an Environmental Impact Statement.

Court - United States Supreme Court.

Criteria - standards used for making a determination.

Critical Habitat - specific areas with physical or biological features essential to the conservation of a listed species and which may require special management considerations or protection.

Cubic foot per second (cfs) - A rate of water flow equal to 1 cubic foot of water passing a point in 1 second of time.

Cultural resource - a site or structure that is part of the heritage of an area and typifies a particular stage of human activity in the area. Includes archeological, historic, and undisturbed natural sites that have historic or prehistoric associations.

Discharge (flow) - volume of water that passes a given point within a given period of time; expressed in this document in cfs.

Drawdown - lowering of a reservoir's water level; process of depleting reservoir or groundwater storage.

Easement - a right to the use of land that does not involve change of ownership.

Endangered Species - a species or subspecies whose survival is in danger of extinction throughout all or a significant portion of its range.

Endangered Species Act of 1973, as amended (P.L. 93-205, 16 U.S.C. 1531 et seq.) - a law enacted by Congress to provide for the conservation of endangered or threatened species of fish, wildlife, and plants, and for other purposes.

Flash streams - streams that have a sudden or flash flow or flush flow for a comparatively brief period of time, while such stream is draining the particular basin or source of supply fed by melting snows.

Forage Fish - generally, small fish that reproduce prolifically and are consumed by predators.

Fry - life stages of fish between the egg and fingerling stages.

Gaging station - specific location on a stream where systematic observations of hydrologic data are obtained through mechanical or electrical means.

Headwater - the source and upper part of a stream.

Highly sensitive uses - schools, hospitals, convalescent homes, daycare centers, and other areas where large numbers of people concentrate, who because of their age, physical condition, or large number may require assistance to evacuate.

Impoundment - body of water created by a dam.

Indian Trust Assets - legal assets associated with the rights or property held in trust by the United States for the benefit of federally recognized Indian tribes or individuals.

Inflow - water flowing into a lake or reservoir from a river and its tributaries; or water entering a river from its tributaries.

Irretrievable commitment - of natural resources means loss of production or use of resources as a result of a decision.

Irreversible commitments - are decisions affecting renewable resources such as soils, wetlands, and water fowl habitat. Such decisions are considered irreversible because their implementation would affect a resource that has deteriorated to the point that renewal can occur only over a long period of time or at great expense, or because they would cause the resource to be destroyed or removed.

Irrigation return flows - excess Irrigation Water not consumed that returns to the main stem (or a collection ditch) from surface runoff, subsurface underflow, or groundwater inflows.

Irrigation season - usually the 6-month period beginning March 15 and ending September 15 of any given year.

Juvenile - young fish older than 1 year but not having reached reproductive age.

Landslide - refers to rock or debris descending down a slope slowly to very rapidly due to gravity.

Larval fish - fish in an immature stage that develop from the fertilized egg before assuming the characteristics of the adult.

Lead agency - the agency initiating and overseeing the preparation of an Environmental Impact Statement or other NEPA compliance document.

Liquefaction - a phenomenon in which saturated soils lose strength and cohesion when subjected to dynamic forces, such as shaking during an earthquake. Liquefaction can also occur in unsaturated soils with low cohesion, such as sand.

Mean monthly flow - average flow for the month, usually expressed in cfs.

Memorandum of Agreement (MOA) - a written agreement between two willing parties that expresses the explicit intent of the agreed-upon action.

Milligram per liter - equivalent to one part per million.

National Environmental Policy Act (NEPA) of 1969, as amended (P.L. 91-190, 42 U.S.C. 4321-4347 ) - a law enacted by Congress to establish a national policy for the environment, to provide for the establishment of a Council on Environmental Quality, and for other purposes.

National Historical Preservation Act of 1966, as amended (P.L. 89-665, 16 U.S.C. 470) - a law enacted by Congress to establish a program for the preservation of additional historic properties throughout the nation, and for other purposes.

National Performance Review - a federal government review enacted by President Bill Clinton that was designed to review federal procedures and operations and to ultimately create a government that works better and costs less.

Non-point source - is a diffuse source, such as runoff from a large area of land. Chemical constituents from these sources are often the result of natural background sources. However, NPS pollution can result from agriculture (e.g., irrigation and grazing of livestock), urban storm water runoff, leaking septic tanks, and erosion from disturbed areas (e.g., highway construction, mining, or off-road vehicles).

Open space - undeveloped areas, golf courses, beaches, and other areas.

Permeability (soil) - ease with which water flows through a layer of soil.

Point source - discharges from an identifiable point (e.g. pipe, pond, culvert, or drain) into a water body.

Prime (agricultural) farmland - is defined by the U.S. Department of Agriculture, NRCS as best suited to the production of row, forage, and fiber crops.

Public domain lands - refer to lands that have never left federal ownership under the jurisdiction of the BLM. Public domain lands are also known as public lands. Public land is a term used for the federal land of the western United States, much of which is administered by the BLM.

Public involvement - process of obtaining citizen input into each stage of development of planning documents.

Quitclaim Deed - a written instrument that transfers a party's rights concerning particular property to another party.

Recognized environmental condition - a recognized environmental condition is defined as the presence or likely presence of any hazardous substance or petroleum product on a property under conditions that indicate an existing release, a past release, or a material threat of a release of hazardous substance or petroleum product into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws.

Reclamation - the United States Department of Interior, Bureau of Reclamation.

Reclamation Project - any irrigation of multiple-purpose project constructed by the Secretary through Reclamation, the purposes of which are authorized by federal Reclamation law (the Act of June 17, 1902 and Acts supplementary to and amendatory thereof).

Reclamation Project Lands - real property owned by the United State and administered by the Secretary, acting through the Commissioner of Reclamation, including all acquired and withdrawn lands and water areas under jurisdiction of Reclamation.

Riparian - pertaining to the bank of a river, pond, or lake.

Rural land uses - agricultural areas, farms, orchards, and nurseries.

Salinity - a term used to refer to the dissolved minerals in water, also referred to as total dissolved solids.

Secretary - the Secretary of the Interior or a duly authorized representative.

Sediment - unconsolidated solid material that comes from weathering of rock and is carried by, suspended in, or deposited by water or wind.

Sediment load - mass of sediment passing through a stream.

Seepage - relatively slow movement of water through a medium such as sand.



Spills - water releases from a dam in excess of power plant capacity.

Spillway - overflow facility at a dam.

Stage - elevation of the water surface.

Stock water diversions - irrigation diversion outside the irrigation season to provide water for livestock.

Stream flow station - a site where a continuous record of discharge is obtained. Within the USGS, the term is used only for a station where a continuous record of discharge is obtained.

Subsidence - A dropping of the land surface as a result of ground water being pumped. Cracks and fissures can appear in the land. Subsidence can be caused by various natural phenomena such as tectonic movement, consolidation, hydro-compaction, or rapid sedimentation; additionally, subsidence can also result from a variety of human activities, including withdrawal of water or petroleum from the subsurface. Subsidence resulting from over pumping is usually an irreversible process.

Tailwater - water immediately downstream of the outlet from a dam or hydroelectric power plant.

Traditional cultural property (TCP) - a site or resource that is eligible for inclusion in the National Register of Historic Places because of its association with cultural practices or beliefs of a living community.

Tributary - river or stream flowing into a larger river or stream.

Turbidity - a measure of clarity or cloudiness of water, measured by how deeply light can penetrate into the water from the surface.

Unique farmland - is defined by the NRCS as farmland that is not classified as "prime farmland," but has special combinations of soil quality, location, topography, growing season, and moisture supply necessary to produce high yields of specialty crops such as fruits and vegetables.

Urban land uses - residential, commercial, and industrial areas.

Watershed - the drainage area upstream of a specified point on a stream.

Wetlands - areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.

Withdrawn lands - federal lands withheld from settlement, sale, location of minerals, or entry under some or all of the general lands laws for the purpose of limiting activities in order to maintain other public values, reserve the area for a particular public purpose, or transfer jurisdiction of this area from one federal agency to another. When that public purpose is a Reclamation project, withdrawn lands are made available by the United States for project use at no cost to the repayment entity. Withdrawals from the public domain transfer jurisdiction from the BLM to Reclamation; withdrawn lands are not public lands.

Young-of-year - small fish hatched from eggs spawned in the current year.

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## REFERENCES



## 8.0 REFERENCES

- Anby. 2004. Personal communication. [January 30 telephone conversation with Mr. Anby, U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS), Lovelock, Nevada.]
- Autobee, R. 1993. 'Humboldt Project (Second Draft)'. Bureau of Reclamation History Program. Denver Colorado. Research on Historic Reclamation Projects. Located at U.S. Department of Interior: Bureau of Reclamation Website "Project Data Web". Located at <http://www.usbr.gov/dataweb>. Accessed January 2004.
- Bard, J.C., C.I. Busby, and J.M. Findlay. 1981. *A Cultural Resources Overview of the Carson & Humboldt Sinks, Nevada*. Cultural Resource Series No. 2. Bureau of Land Management, Nevada.
- Berger, D.L. 2000a. Water Budgets for Pine Valley, Carico Lake Valley, and Upper Reese River Valley Hydrographic Areas, Middle Humboldt River Basin, North-Central Nevada—Methods for Estimation and Results: U.S. Geological Survey Water-Resources Investigations Report 99-4272, 40 p.
- 2000b. Water-Budget Estimates for the 14 Hydrographic Areas in the Middle Humboldt River Basin, North-Central Nevada: U.S. Geological Survey Water-Resources Investigations Report 00-4168, 55 p.
- Biological Resources Research Center (BRRC) 2004. University of Nevada-Reno located at [www.brre.unr.edu](http://www.brre.unr.edu). Accessed February 2004.
- Bradley, P. 1991. Wildlife and Wildlife Habitats Associated with the Humboldt River and its Major Tributaries. Humboldt River, Nevada Department of Wildlife.
- 1997. Unique and Important Wildlife Habitat. Nevada Department of Wildlife Federal Aid in Wildlife Restoration Project Report on changes to wildlife and vegetation in northeastern Nevada.
- 2004. Personal communication [April 1 meeting and April and May 19 telephone conversations with G. Halsey, Greystone, Sacramento California. RE: wildlife and habitat, Battle Mountain Community Pasture and Humboldt River area]. Wildlife Biologist, Nevada Department of Wildlife, Elko, NV.
- Bray, J. 2004 Personal communication [Feb 11 telephone conversation with K. Steinert, Greystone RE: BOR Funding at Rye Patch Reservoir] Regional Manager Fallon Region, Nevada Division of State Parks.
- Brock, R. K. (editor) 2000. *Emigrant Trails West: A Guide to the California Trail from the Raft River to the Humboldt Sink and the Greenhorn Cutoff*. Trails West, Inc., Reno.
- Bull, E. and L. Richards. 2003. Humboldt Wildlife Management Area Conceptual Management Plan. Nevada Department of Conservation and Natural Resources, Division of Wildlife.
- Carruthers and DeLoach. 2004. Progress on the Biological Control of Tamarisk [Diorhabda and the USDA]. California Invasive Plant Council News, Vol. 11, No. 4, Winter 2004.
- Churchill County. 2003. Churchill County Master Plan Update. Adopted by the Churchill

County Commissioners. October 2003. Land Use Map (unpaged)

- Cowardin, et al. 1979. "Classification of Wetlands and Deepwater Habitats of the United States". Performed for the U.S. Fish and Wildlife Service.
- Davis, J. 2004. Personal communication. [*Feb 25* telephone conversation with K. Steinert RE Lander County Sheriff's Department services and personnel]. Undersheriff, Lander County Sheriff's Department Nevada.
- D'Azevedo, W. L. (editor) 1986. Handbook of North American Indians. Volume 11, Great Basin. Smithsonian Institution, Washington, D.C.
- DePolo, C. M.; L. M. Jones; D. M. DePolo; S. Tingley. 2000. Living with Earthquakes in Nevada. Nevada Bureau of Mines and Geology, Special Publication 27.
- Deshler, William (BC) 2004. Personal communication. [*Jul 23* email correspondence with S. Fairchild RE: BLM leases on Humboldt Project Lands]. Realty Specialist, U. S. Bureau of Reclamation, Lahontan Basin Office, Carson City, Nevada.
- Driesner, D.; A. Coyner. 2003. Major Mines of Nevada, Mineral Industries in Nevada's Economy, Mackay School of Mines, University of Nevada- Reno, Nevada Bureau of Mines and Geology Special Publication page14.
- EDR (Environmental Data Resources). 2004a. EDR DataMap and Environmental Atlas for Rye Patch Reservoir Area, Pershing, Nevada. Inquiry Number 1241262.3s. August 3, 2004
- Eissman, Linda, Bob Francke, Randy Moore, and Steve Weaver, 1991. Rye Patch State Recreation Area Development Plan.
- Elston, R.G. 1986. "Good Times, Hard Times: Prehistoric Change in the Western Great Basin. Man and Environment in the Great Basin" Society for American Archaeology Papers 2. page 186–206.
- Fowler, C. and S. Liljeblad, 1986, Northern Paiute, Handbook of North American Indians. Volume 11, Great Basin, pages 435–465. Smithsonian Institution, Washington, D.C.
- French, J. 2004. Personal communication [*May 13* telephone conversation with G. Halsey, Greystone, Sacramento, California. RE: Rye Patch Reservoir and Humboldt River fisheries and stocking programs]. Fisheries Biologist, Nevada Department of Wildlife, Winnemucca.
- Garside, L. J. and J. Schilling. Geology Extracted from Thermal Waters of Nevada. Website located at [www.greatbasingeothermal.com](http://www.greatbasingeothermal.com). Accessed February 2004.
- Garside, L. J.; R. H. Hess; K. L. Fleming and B. S. Weimer. 1988. Nevada Bureau of Mines and Geology, Bulletin 104, Oil and Gas Developments in Nevada.
- Grayson, D.K., 1993. The Desert's Past: A Natural Prehistory of the Great Basin. Smithsonian Institution, Washington, D.C.
- Grossepup, G.L. 1958. Radiocarbon Dates From Nevada of Archaeological Interest. Archaeological Radiocarbon Dates from California and Nevada, pages17–31. University of California Archaeological Survey Report 44(1), Berkeley.

- Harris, T. 2004. Personal communication [*Feb 10* telephone conversation with K. Stemert, Greystone Environmental RE: Economic and Employment in Lander and Pershing Counties] Professor Coordinator Economic Development, Applied Economics & Statistics Department, University of Nevada, Reno.
- Hattori, F.M. 1982. "The Archaeology of Falcon Hill Cave, Winnemucca Lake, Washoe County, Nevada". Nevada State Museum Anthropological Papers 18.
- Heizer and Hester. 1978. *Chronologies in New World Archaeology*, pages147-199. R.F. Taylor and Clement W. Meighan, editors. Academic Press, New York.
- Heizer, R.F., and M.A. Baumhoff. 1962. *Prehistoric Rock Art of Nevada and Eastern California*. University of California Press, Berkeley.
- Hennen, G. W. 1964a, Humboldt River water distribution, part 1 – Problems: Nevada Division of Water Resources, unpagd.
- Hennen. 1964b. Humboldt River water distribution, part 2 – Priority Tables: Nevada Division of Water Resources, page183.
- Hess, G. W. 2002. U. S. U. S. G. S., Simulation of Stream flow, Middle Humboldt River, North-Central Nevada, Water Resources Investigation Report Department of the Interior pages 01-4231. Prepared in cooperation with the Nevada Division of Water Resources. Carson City, Nevada.
- Hinze, Debra. Personal communication. 2004. [*March 22* with Ms. Debra Hemze, City of Battle Mountain Building Department].
- Hodges, Bennie. 2004 Personal communication [Ongoing discussions with Greystone Consultants, RE: Pershing County Water Conservation District operation and maintenance of the Humboldt Project] PCWCD Secretary Manager.
- Holley, G. 2004 Personal communication [*March 15* telephone conversation with K. Stemert, Greystone RE: Economics status of the Battle Mountain Colony] Tribal Administrator, Battle Mountain Band of the Te-Moak Tribe of the Western Shoshone.
- Horton, G. 2000, Humboldt River Chronology- An overview and chronological history of the Humboldt River and related water issues- overview: Nevada Water Basin Information and Chronology Series, Nevada Division of Water Planning, unpagd.
- House, P. K.; A. R. Ramelli and C. T. Wrucke, 2001. Geologic Map of the Battle Mountain Quadrangle, Lander County, Nevada. Nevada Bureau of Mines and Geology.
- House, K. 2004. Personal communication [*May 11* with G. Halsey, Greystone, Sacramento, California. RE: fluvial geomorphology and restoration potential of Battle Mountain Community Pasture Argenta Marshes ]. Nevada Bureau of Mines and Geology.
- House, P. K.; A. R. Ramelli and C. T. Wrucke, 2001. Nevada Bureau of Mines and Geology, Geologic Map of the Battle Mountain Quadrangle, Lander County, Nevada.
- Hunt, D. 2004. Personal communication [*February 19 and April 1* meetings and February, March and April telephone conversations with G. Halsey, Greystone, Sacramento, California. RE:

vegetation community, habitat and wildlife data sources, future use and management of transferred lands at Humboldt WMA and Battle Mountain Community Pasture]. Habitat Branch Chief, Nevada Department of Wildlife, Reno.

Intermountain Range Consultants (Intermountain), 1997. Monitoring Report, Muleshoe Ranch (Community Pasture).

Jett, C. E. 1991. Soil Survey of Lander County, Nevada, South Part. Volume 1 and 2. Bureau of Land Management, United States Department of Agriculture, Soil Conservation Service. 606 and 1217 pages.

Jett, C. E. 1992. Soil Survey of Lander County, Nevada, North Part. Volume 1 and 2. Bureau of Land Management, United States Department of Agriculture, Soil Conservation Service. 688 and 1373 pages.

Killeen, L. 2004. Personal communication [*Feb 12* telephone conversation with K. Steinert, Greystone RE: Fire service in the Battle Mountain area of Lander County Nevada] Assistant Chief Battle Mountain Volunteer Fire Department.

Lander County Master Plan (Lander County), 1997. Adopted by the Lander County Commission, August 25, 1997.

Farmer, P. 1998. *Tackling tamarisk*. Vol. 30 No. 10. May 25, 1998. Website located at <http://www.hcn.org>. Accessed February 2004.

Livingston, S. D. 1986. Archeology of the Humboldt Lakebed Site. *Journal of California and Great Basin Anthropology* 8(1):99-115.

Loud, L. L., and M.R. Harrington, 1929. Lovelock Cave. University of California Publication in American Archeology and Ethnology Vol. 25, No. 1. University of California, Berkeley.

Mellison, C. 2004. Personal communication [*April 1* meeting, March and April telephone conversations with G. Halsey, Greystone, Sacramento, California. RE: federally listed species and species of concern that may occur in the project area and potential impacts to them]. Biologist, United States Fish and Wildlife Service, Reno, Nevada.

Montrose, Hugh. 2004. Personal communication [August 4, interview with Dick Brunner, Senior Geologist, Tetra Tech. RE: Phase I ESA, Humboldt Sink]. Chairman of the Pershing County Airport Board.

Mora, D. 2004. Personal communication [*March 12*, telephone conversation with K. Steinert, Greystone RE: PILT funding in Pershing County, Nevada]. Treasurer, Pershing County, Nevada.

McGuckian, M. A. 1996. Management Uses of Contemporary Ethnography and the Lovelock Paiute. Master's Thesis, University of Nevada, Reno.

National Park Service (NPS) 1999. Comprehensive Management and Use Plan Final Environmental Impact Statement California National Historic Trail, Pony Express National Trail; Management and Use Plan Update/Final Environmental Impact Statement Oregon National Historic Trail, Mormon Pioneer National Historic Trail. U.S. Department of the Interior, National Park Service, Denver Service Center.

- Neel, I. 2004. Personal communication [*May 11* with G. Halsey, Greystone, Sacramento, California. RE: non-game wildlife use of Humboldt Sink, Jessup flat and Rye Patch Reservoir, including species of concern]. Nevada Department of Wildlife Non-Game Biologist.
- Neufeld, J. 2004. Invasive and Noxious Weed Control in Lander County: Invasive and Noxious Weed Definition and Characteristics. Website located at (<http://www.uncc.unr.edu/publications/natural.htm>). Fact Sheet 99-45. Accessed February 2004.
- Nevada Division of Water Planning (NDWP). Nevada Water Facts, 2004a. Website located at <http://water.nv.gov/Water%20planning/water-fact.htm>. Accessed February 2004.
- 2004b, Nevada Division of Water Planning, Nevada Water Facts, Nevada Hydrographic Region. Website located at <http://water.nv.gov/Water%20planning/water-fact.htm>. Accessed February 2004.
- 2004c, Nevada Division of Water Planning, Nevada Water Facts, Northwest Region. Website located at <http://water.nv.gov/Water%20planning/water-fact/gwinfo.htm>. Accessed February 2004.
- 2004d. Nevada Division of Water Planning, Nevada State Water Plan, Part 2 - Water Use and Forecasts, Section 1, Historic and Current Water Use.
- Nevada Department of Conservation and Natural Resources (DCCR). 2002. Nevada Natural Resources Status Report for the Nevada Natural Resources Plan. Located at <http://dccc.nv.gov/nrp01/env05.htm>. Accessed: January 2004.
- Nevada Natural Heritage Program (NvNHP) 2001. Natural Heritage Program Rare Plant Atlas. Morefield, J. ed. Prepared for United States Fish and Wildlife Service. Published at NvNHP website located at <http://heritage.nv.gov>. Accessed March 2004.
- Nevada Natural Heritage Program (NvNHP) 2004. State of Nevada Department of Conservation and Natural Resources. Rare Species. Published at NvNHP website located at <http://heritage.nv.gov>. Accessed March 2004.
- Nevada Oil Production. Oil Production in Nevada by Producing Field 1954 to 2001. State of Nevada, Commission on Mineral Resources, Division of Minerals. September 9, 2002.
- Nevada Small Business Development Center, State of Nevada Demographer. Website located at <http://www.nsbdc.org/demographer>. Accessed March 2004.
- Nevada Waterfowl Association. 1993. "Nesting Islands project description". Project listing on NWA website located at <http://www.nevadawaterfowl.org/projects/index.shtml>. Accessed April 2004.
- Odegard C. 2004. Personal communication, [*Feb 10*, telephone conversation with K. Steinert, Greystone. RE: Police and Fire Services in Pershing County Nevada.] Communication Supervisor, Pershing County (Nevada) Sheriff's Department.
- Orr, G. 2004a. Personal communication [*Feb 11, March 17, June 24*, telephone conversations with K. Steinert, Greystone Environmental RE: Rye Patch Recreational Area operations, visitation, and drinking water services]. Park Supervisor, Rye Patch State Recreation Area, Nevada State Parks.

- Orr, G. 2004b. Personal communication [*May 21* telephone conversation with G. Halsey, Greystone, Sacramento, California. RE: Rye Patch State Recreational Area wildlife, rare plants, park improvements, landscape plant list, weed abatement]. Park Supervisor, Rye Patch State Recreation Area, Nevada State Parks.
- Park, W. Z., E. Siskin, A. M. Cooke, W. T. Mulloy, M. K. Opler, I. F. Kelly, and M. L. Zigmond. 1938. Tribal Distribution in the Great Basin. *American Anthropologist*, 40(4):622–638.
- Paul, Angela and Mae S. Gustin. 2002a. Arsenic Occurrence and Transport in the Lower Humboldt River System, Nevada 1998-1999. Unpublished Draft, July 21, 2002.
- Paul, Angela and Mae S. Gustin. 2002b. Arsenic Characterization in Upper Humboldt Lake, Humboldt Wildlife Management Area, Nevada 2000-2001. Unpublished Draft, July 21, 2002.
- Pershing County Water Conservation District (PCWCD), Humboldt Project: 2004. Non-Project Features website located at [http://pcwed.com/non-project\\_features.htm](http://pcwed.com/non-project_features.htm).
- Pershing County Water Conservation District (PCWCD), September 1995. Water Conservation Plan, Unpublished Draft.
- Pershing County Master Plan. 2002. Adopted by the Pershing County Commissioners, March, 2002.
- Peterson, S. 2004 Personal communication [*Feb 13* telephone conversation with K. Steinert, Greystone. RE: Recreational Resources and current employment in Lander County, Nevada] Executive Director, Battle Mountain Chamber of Commerce.
- Plume, R.W. and Ponce, D.A., 1999. Hydrogeologic Framework and Ground-Water Levels, 1982 and 1996, Middle Humboldt River Basin, North-Central Nevada: U.S. Geological Survey Water-Resources Investigations Report 98-4209, 2 map sheets.
- Pomeroy, E. 2004 Personal communication [*Feb 13* telephone conversation with K. Steinert, Greystone. RE: current employment trends in Pershing County Nevada] Executive Director Pershing County Economic Development Authority.
- Powrey, G. 2004. Personal communication. [*Feb 12 and March 17* telephone conversation with K. Steinert, Greystone. RE: Federal PILT and payments made by PCWCD to Lander County, Nevada] Treasurer, Lander County, Nevada.
- Price, J. G. 2003. Nevada Bureau of Mines and Geology, Geology of Nevada, by, Special Publication 33 from the Proceedings of the 39th Forum on the Geology of Industrial Minerals, May 19-21, Sparks Nevada.
- Roust, N.L. 1966. The Archeology of Granite Point, Pershing County, Nevada. University of California Archeological Survey Report 66:37-72
- Rusco, M. 1976. Nevada State Parks – Rye Patch Development Reconnaissance. Unpublished manuscript on file at the Nevada State Museum, Carson City, Nevada.
- Rusco, M.K.; J.O. Davis (editors) 1982. The Humboldt Project: Rye Patch Reservoir-Phase IV, Archaeological Data Synthesis Final Report: Nevada State Museum Archaeological Services.



Unpublished manuscript on file at the Nevada State Museum, Carson City, Nevada.

- Rusco, M.K.; J.O. Davis. 1987. Studies in Archeology, Geology and Paleontology at Rye Patch Reservoir, Pershing County, Nevada. Anthropological Papers No. 20, Nevada State Museum, Carson City, Nevada.
- Rusco, M., J. Davis, and J.R. Firby. 1979. The Humboldt Project, Rye Patch Archaeology, Phase III - Final Report; Nevada State Museum Archaeological Services. Unpublished manuscript on file at the Nevada State Museum, Carson City.
- Rusco, M., J. Davis, A. Jensen, and F. Sellinger. 1977. Archaeological Investigations at the Rye Patch Reservoir. Unpublished manuscript on file at the Nevada State Museum, Carson City.
- Rusco, M., and A. Jensen. 1976. Archaeological Investigations at Rye Patch Reservoir, Preliminary Report; Nevada State Museum. Unpublished manuscript on file at the Nevada State Museum, Carson City.
- Sada, D. 2004. Personal communication [April 22 with G. Halsey, Greystone, Sacramento, California, RE: warm and hot spring snails and their potential occurrence at Stony Point and Rock Creek]. Biologist, Desert Research Institute.
- Seagraves, C. and M. J. Zielinski. 1998. Soil Survey of Pershing County, Nevada, West Part. Part 1 and part 2. Bureau of Land Management, United States Department of Agriculture, Soil Conservation Service. 212, and 525 pages.
- Smith, R.C., P. McGuckian Jones, J.R. Roney, and K.E. Pedrick. 1983. Prehistory and History of the Winnemucca District: A Cultural Resources Literature Overview. Cultural Resource Series No. 6. U.S. Department of the Interior, Bureau of Land Management, Winnemucca District, Nevada.
- Snap, J. 2004. Personal communication [May 5 telephone conversation with K. Stemert, Greystone RE: new water service availability in the Battle Mountain area]. Lead Man, Battle Mountain Water and Sewage Department.
- State of Nevada, Department of Employment, Training and Rehabilitation 2000a. Pershing County Labor Force Data. Department of Employment, Training & Rehabilitation Website located at <http://www.detr.state.nv.us/>. Accessed March 2004.
- State of Nevada, Department of Employment, Training and Rehabilitation 2000b. Lander County Labor Force Data. Department of Employment, Training & Rehabilitation Website located at <http://www.detr.state.nv.us/>. Accessed March 2004.
- Stevenson, T. 1996. Nevada's Perspective of Habitat Loss Due to Saltecedar Invasion. Saltecedar Management and Riparian Restoration Workshop, National Invasive Species Group, Las Vegas, Nevada. September 17 and 18, 1996.
- Steward, J.H. 1938. Basin-Plateau Aboriginal Sociopolitical Groups. Bureau of American Ethnology Bulletin 120. Reprinted by University of Utah Press, Salt Lake City, 1970.
- Steward, J.H., and E. Wheller-Voegelin. 1974. Paiute Indians III. American Indian Ethnohistory. California and Basin-Plateau Indians. Garland Publishing, New York.

- Teske, L. 2004. Personal communication [*April 1 meeting, May 19 telephone conversation with G. Halsey, Greystone, Sacramento, California. RE:*]. Wildlife Biologist, Nevada Department of Wildlife, Battle Mountain.
- Tetra Tech, Inc. September 2004. Final Phase I Environmental Site Assessment, Humboldt Project Lands, Nevada. Prepared for the U.S. Department of the Interior, Bureau of Reclamation. TC14710-01.
- Thomas, D.H., L.S.A. Pendleton, and S.C. Cappannari 1986. Western Shoshone. Handbook of North American Indians. Volume 11, Great Basin, pages 262–283. Smithsonian Institution, Washington, D.C.
- Tuohy, D.R. 1968 Some Early Lithic Sites in Western Nevada. Eastern New Mexico University Contributions to Anthropology, 1(4):27–38, Portales.
- Turner, H. 1979. Nevada State Highway Department, Cultural Resource Report – Historical and Archeological, Battle Mountain. EA No. 70279, Unpublished manuscript on file at the Nevada State Museum, Carson City, Nevada.
- United States Bureau of Land Management (BLM), January 2002. Phoenix Project, Final Environmental Impact Statement. BLM, Battle Mountain Field Office.
- 2004, Nevada Cement Company, Echo Canyon Exploration Project Environmental Assessment, NV 020-04-02. 1976. BLM, Winnemucca District Office. United States Bureau of Land Management, January 2004
- United States Bureau of Reclamation (USBR), 1976. Factual Data and Map of the Humboldt Project - Nevada – Mid-Pacific Region.. U. S. Bureau of Reclamation.
- 1992, Final Environmental Assessment and Finding of No Significant Impact. Rye Patch Dam Modification, Safety of Dam Program. U. S. Bureau of Reclamation, Mid-Pacific Region, Sacramento, California. October 1992
- 1993, Environmental Commitment Plan Rye Patch Dam Modification, Safety of Dams Program, U.S. Bureau of Reclamation, Mid-Pacific Region.
- February 23 and 24, 1994a. Land Description and Hazardous Waste Survey, U. S. Bureau of Reclamation
- May 31, 1994b Letter concerning Battle Mountain Gravel Pits Water Quality Data Transmittal.
- 1995a, Final Environmental Assessment and Finding of No Significant Impact. Rye Patch Dam Modification Changes, Safety of Dam Program. U. S. Bureau of Reclamation, Lahontan Basin Area Office, September 1995
- 1995b, Humboldt Project, Nevada, Pershing County Water Conservation District Water Conservation Plan. U. S. Bureau of Reclamation, Lahontan Basin Area Office, September 1995.
- 2003a, Resource Management Plan Guidebook: Planning for the Future. Website located at <http://www.usbr.gov/main/library/rmpg/rmpg.pdf>. U. S. Bureau of Reclamation.

- 2003a, Draft Environmental Impact Statement, Transfer of Title to Facilities, Works, and Lands of the Gila Project, Wellton-Mohawk Division to Wellton-Mohawk Irrigation and Drainage District, LC-03-045. U. S. Bureau of Reclamation, Yuma Area Office, August 2003.
- 2003b, Notice of intent to prepare an Environmental Impact Statement: Humboldt Project Conveyance, Pershing and Lander Counties, NV, Federal Register: February 26, (Volume 68, Number 38) From the Federal Register Online via GPO Access [<http://www.access.gpo.gov/jdocID/f126fe03-76>].
- Draft Resource Management Plan for Battle Mountain Pasture. U. S. Bureau of Reclamation, Lahontan Basin Area Office, not dated.

United States Census Bureau 2000. Website located at <http://www.census.gov>. Accessed March 2004.

United States Fish and Wildlife Service (USFWS). 2003. Memorandum from Nevada Fish and Wildlife Office to Caryn Hunt DeCarlo, Environmental Specialist, Reclamation. RE: Species List Request for the Proposed Bureau of Reclamation Humboldt Project Transfer, March 3, 2003.

United States Geological Survey (USGS). 2004. United States Water Data for the Nation website at <http://waterdata.usgs.gov/nwis>. Accessed March 2004.

University of Nevada, Reno (UNR). 1999. Pershing County Economic and Demographic Profile. From the University of Nevada, Reno The University Center for Economic Development (UCED) website located at <http://www.ag.unr.edu/uced>. Accessed March 2004.

Vasek, L. C., and M. G. Barbour. 1977. Mojave Desert shrub vegetation. Pages 835-867. In M. G. Barbour and J. Major, eds. Terrestrial vegetation of California. John Wiley and Sons, New York.

Weaver, S. 2004. Personal communication [*March 15, May 5* telephone conversation with K. Steinert, Greystone RE Question 1 Funding of projects at Rye Patch and Park Fees and their use at Rye Patch]. Chief of Planning & Development, Nevada Division of State Parks.

Western Regional Climate Center (WRCC). 2001. Website located at <http://www.wrcc.dri.edu> accessed 2003.

Western Botanical Services, Inc. 1998. Rye Patch Wetland Restoration and Revegetation Project, Pershing County, Nevada. Prepared for U. S. Bureau of Reclamation, July 1998.

Wheat, N.M. 1967. Survival Arts of the Primitive Paiutes. University of Nevada Press, Reno.

Wren, D. 2004. Personal communication [*Feb 12, 25, March 18* telephone conversation with K. Steinert, Greystone RE Derby Airport and future plans, housing in Pershing County Nevada, Land Use designations in Pershing County] Regional Planner Pershing County, Nevada.

Zielinski, M. J. 1994. Soil Survey of Pershing County, Nevada, East Part. United States Department of the Interior, Bureau of Land Management. 742 pages.

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## ATTACHMENTS

- A- Framework for the Transfer of Title
- B- Public Law 107-282 (107<sup>th</sup> Congress), Humboldt Project Conveyance Act
- C- Memorandum of Agreement between Reclamation and PCWCD
- D- Conceptual Agreement between PCWCD and the State of Nevada
- E- Letter of Agreement between Lander County and PCWCD
- F- Letter of Agreement between Pershing County and the State of Nevada
- G- H.R. 2754- Energy and Water Development Appropriations Bill
- H- Correspondence with U.S. Fish and Wildlife Service
- I- Wildlife Species Associated with the Humboldt River and its Tributaries
- J- Summary of Comments Received during Scoping



**APPENDIX A – “FRAMEWORK FOR THE TRANSFER OF  
TITLE - BUREAU OF RECLAMATION PROJECTS”**





**FRAMEWORK FOR THE TRANSFER OF TITLE  
BUREAU OF RECLAMATION PROJECTS  
AUGUST 7, 1995**

**BACKGROUND**

The Reclamation program was founded in 1902. Its original mission was one of civil works construction to develop the water resources of the arid Western United States to promote the settlement and economic development of that region. The results of that work are well known in the hundreds of projects that were developed to store and deliver water. That substantial infrastructure made Reclamation the largest wholesale supplier of water in the United States, the sixth largest electric power generator, and the manager of 45 percent of the surface water in the Western United States. Many of these projects were constructed at a time when there were no local communities and utilities. Today much of the West is settled and is, in some respects, the most urbanized region of the country. Reclamation owns and operates public utility facilities which, if located in other parts of the country, would likely be owned, operated, and funded by publicly regulated private corporations or local government agencies. While it has been Reclamation's policy for decades to transfer operation and maintenance of projects to local entities where and when appropriate, interest in the actual transfer of title (with its attendant responsibilities) is now growing.

**PURPOSE**

As part of the second phase of the National Performance Review (REGO II), Reclamation is undertaking a program to transfer title of facilities that could be efficiently and effectively managed by non-Federal entities and that are not identified as having national importance. This effort is recognition of Reclamation's commitment to a Federal Government that works better and costs less. The transfer of title will divest Reclamation of the responsibility for the operation, maintenance, management, regulation of, and liability for the project. The transfer of title to a project will, in effect, sever Reclamation's ties with that project<sup>1</sup>.

**SCOPE OF APPLICATION OF FRAMEWORK**

It is the intent of Reclamation to transfer title and responsibility for certain projects or facilities, when and where appropriate, to qualifying non-Federal interests. Uncomplicated projects are projects or facilities where there are no competing interests, the facilities are not hydrologically integrated with other projects, the financial arrangements are relatively simple and easily defined, and the legal and institutional concerns<sup>2</sup> associated with a transfer can be readily addressed. In other words, after meeting the requirements set forth in the Criteria section below, projects will be selected

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<sup>1</sup> Reclamation recognizes that the complete severance of the relationship between Reclamation and the transferee may not be possible in all instances.

<sup>2</sup> Such concerns include, but are not limited to, unresolved Native American claims, endangered species considerations, international or interstate issues, absence of consensus among beneficiaries, significant disagreements raised by the stakeholders, a need to prepare an Environmental Impact Statement, and substantive objections from other governmental agencies.

for title transfer on the basis of the transfer being achievable and able to move forward quickly.

For purposes of this document and the transfer of title to the projects, the terms "beneficiary" and "stakeholder" are defined as follows: (a) beneficiary refers to (i) contractors and others who receive direct benefits under the authorized purposes for that project and (ii) non-Federal governmental entities in the project area; (b) stakeholder is a broader term and includes the beneficiaries, as well as those individuals, organizations, or other entities which receive indirect benefits from the project or may be particularly affected by any change from the status quo.

### **CRITERIA FOR TITLE TRANSFER**

Following are the six major criteria that must be met before any project is transferred:

- 1) The Federal Treasury, and thereby the taxpayer's financial interest, must be protected
- 2) There must be compliance with all applicable State and Federal laws
- 3) Interstate compacts and agreements must be protected
- 4) The Secretary's Native American trust responsibilities must be met
- 5) Treaty obligations and international agreements must be fulfilled
- 6) The public aspects of the project must be protected

### **GENERAL GUIDANCE FOR DETERMINING PROJECTS ELIGIBLE FOR TRANSFER**

Reclamation Area offices will review projects nominated by an interested transferee and will pursue negotiations regarding those projects where the issues associated with transfer are relatively easy to resolve. This could include projects with multiple purposes and numerous stakeholders, but only if it is clear that outstanding issues are resolved and that there is consensus among the stakeholders.

Reclamation will not initiate negotiations on those projects where title transfer will involve a protracted process to ensure that the six criteria listed above are met.

Generally, Reclamation will not pursue transfer of powerhouses and generating facilities where power is marketed by the Power Marketing Administrations or where such power is used for purposes not directly associated with project purposes.

### **GENERAL GUIDELINES APPLYING TO TRANSFERS**

All transfers will be voluntary.

Reclamation's intent is to transfer projects to current project beneficiaries, including non-Federal governmental entities, or to entities approved by the current beneficiaries.

All transfers must have the consent of other project beneficiaries. If another beneficiary raises substantive objections which cannot be resolved, the project will remain in Federal ownership.

Reclamation will comply with National Environmental Policy Act and other applicable laws in all transfers<sup>3</sup>.

All transfers must ensure the United States' Native American trust responsibilities are satisfied. In addition, outstanding Native American claims that are directly pending before the Department and that would be directly affected by the proposed transfer will be resolved prior to transfer.

Reclamation officials will meet with representatives from all interested Federal and State agencies to consider their concerns early in the transfer process.

Potential transferees must be competent to manage the project and be willing and able to fulfill all legal obligations associated with taking ownership of that project, including compliance with Federal, State, and tribal laws that apply to facilities in private ownership and assumption of full liability for all matters associated with ownership and operation of the transferred facilities. Potential transferees must be able to demonstrate the technical capability to maintain project safety on a permanent basis and an ability to meet financial obligations associated with the project.

In general, it is Reclamation's expectation that, upon the transfer of title to a project, its jurisdiction over that project will be divested. Reclamation further recognizes that in some cases the complete divestiture of jurisdiction may not be attainable because the transferee still receives water supplied from a Reclamation facility, or only a portion of the project was transferred and the rest of the project remains in Federal ownership, or there are other extenuating circumstances. The degree to which the Reclamation Reform Act of 1982 will apply following transfer will be negotiated on a case-by-case basis.

The financial interests of the Government and general taxpayers will be protected. Transferees must agree to fair and equitable terms based upon the factual circumstances associated with each project. (See attachment which describes the valuation of projects.) Transferees will be expected to pay up front the estimated transaction costs, such as costs associated with compliance with the National Environmental Policy Act, real estate boundary surveys, and so forth. Reclamation will not provide new loans to finance transfers.

No transferred Federal asset will be considered for federal assistance for project operation, maintenance, and replacement or capital construction purposes following completion of the transfer.

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<sup>3</sup> Reclamation is proceeding to develop a new Categorical Exclusion (CE) for those title transfers which would not significantly impact the environment and thus could be categorically excluded from a detailed NEPA review. Generally, Reclamation would anticipate such a CE would apply on projects involving transfer of title of Reclamation projects or facilities, in whole or in part, to entities who would operate and maintain the facilities or manage the lands so that there would be no significant changes in operations and maintenance or in land and water use in the reasonably foreseeable future. It is Reclamation's expectation that a CE would apply to relatively small number of projects, i.e. some of the small single-purpose projects where no change in use is anticipated after the transfer.

Prior to the initiation of detailed discussions on title transfer, Reclamation and the potential transferees will execute an agreement covering the responsibilities of all parties during the negotiations.

A base value will be determined for each project as it becomes the subject of serious negotiations for transfer. (See attached guidance on valuation.) The negotiated price for the project may deviate up or down from the base value. It will be necessary for Reclamation and the interested non-Federal entity to document how the factual circumstances and equitable treatment considerations justify such adjustments. In addition, Reclamation may consider future uses on the transferred lands and waters in establishing a price.

Potentially affected State, local, and tribal governments, appropriate Federal agencies, and the public will be notified of the initiation of discussions to transfer title and will have (1) the opportunity to voice their views and suggest options for remedying any problems and (2) full access to relevant information, including proposals, analyses, and reports related to the proposed transfer. The title transfer process will be carried out in an open and public manner.

Once Reclamation has negotiated an agreement with a transferee, Reclamation will seek legislation specifically authorizing the negotiated terms of the transfer of each project or feature.

**APPENDIX B – PUBLIC LAW 107-282 (107<sup>TH</sup> CONGRESS),  
HUMBOLDT PROJECT CONVEYANCE ACT**



**107<sup>th</sup> Congress, 2<sup>d</sup> Session, Report 107-750**  
**TITLE VIII – HUMBOLDT PROJECT CONVEYANCE**

**SEC. 801. SHORT TITLE.**

This title may be cited as the “Humboldt Project Conveyance Act”.

**SEC. 802. DEFINITIONS.**

For purposes of this title:

- (1) SECRETARY. – The term “Secretary” means the Secretary of the Interior.
- (2) STATE. – The term “State” means the State of Nevada.
- (3) PCWCD. – The term “PCWCD” means the Pershing County Water Conservation District, a public entity organized under the laws of the State of Nevada.
- (4) PERSHING COUNTY. – The term “Pershing County” means the Pershing County government, a political subunit of the State of Nevada.
- (5) LANDER COUNTY. – The term “Lander County” means the Lander County government, a political subunit of the State of Nevada.

**SEC. 803. AUTHORITY TO CONVEY TITLE.**

(a) IN GENERAL. – As soon as practicable after the date of enactment of this Act and in accordance with all applicable law, the Secretary shall convey all right, title, and interest in and to the lands and features of the Humboldt Project, as generally depicted on the map entitle the “Humboldt Project Conveyance Act”, and dated July 3, 2002, including all water rights for storage and diversion, to PCWCD, the State, Pershing County, and Lander County, consistent with the terms and conditions set forth in the Memorandum of Agreement between PCWCD and Lander County dated January 24, 2000, and the Conceptual Agreement between PCWCD and the State dated October 18, 2001, the Letter of Agreement between Pershing County and the State dated April 16, 2002, and any agreements between the Bureau of Reclamation and PCWCD.

(b) MAP. – As soon as practicable after the date of the enactment of this Act, the Secretary shall submit to Congress a map of the Humboldt Project Conveyance. In case of a conflict between the map referred to in subsection (a) and the map submitted by the Secretary, the map referred to in subsection (b) shall control. The map shall have the same force and effect as if included in this Act, except that the Secretary may correct clerical and typographical errors in such map and legal description. Copies of the map shall be on file and available for public inspection in the Office of the Commissioner of the Bureau of Reclamation and in the office of the Area Manager of the Bureau of Reclamation in Carson City, Nevada.

(c) COMPLIANCE WITH AGREEMENTS. – All parties to the conveyance under subsection (a) shall comply with the terms and conditions of the agreements cited in subsection (a).

(d) REPORT. – If the conveyance required by this section has not been completed within 18 months after the date of enactment of this Act, the Secretary shall submit a report to the Committee of Energy and Natural Resources of the Senate that describes –

- (1) the status of the conveyance;
- (2) any obstacles to completion of the conveyance; and

(3) the anticipated date for completion of the conveyance.

#### **SEC. 804. PAYMENT.**

(a) IN GENERAL. – As consideration for any conveyance required by section 803, PCWCD shall pay to the United States the net present value of miscellaneous revenues associated with the lands and facilities to be conveyed.

(b) WITHDRAWN LANDS. – As consideration for any conveyance of withdrawn lands required by section 803, the entity receiving title shall pay the United States (in addition to amounts paid under subsection (a)) the fair market value for any such lands conveyed that were withdrawn from the public domain pursuant to the Secretarial Orders dated March 16, 1934, and April 6, 1956.

(c) ADMINISTRATIVE COSTS. – Administrative costs for conveyance of any land or facility under this title shall be paid in equal shares by the Secretary and the entity receiving title to the land or facility, except costs identified in subsections (d) and (e).

(d) REAL ESTATE TRANSFER COSTS. – As a condition of any conveyance of any land or facility required by section 803, costs of all boundary surveys, title searches, cadastral surveys, appraisals, and other real estate transactions required for the conveyance shall be paid by the entity receiving title to the land or facility.

(e) NEPA COSTS. – Costs associated with any review required under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) for conveyance of any land or facility under section 803 shall be paid in equal shares by the Secretary and the entity receiving title to the land or facility.

(f) STATE OF NEVADA. – The State shall not be responsible for any payments for land or facilities under this section. Any proposal by the State to reconvey to another entity land conveyed by the Secretary under this title shall be pursuant to an agreement with the Secretary providing for fair market value to the United States for the lands, and for the continued management of the lands for recreation, wildlife habitat, wetlands, or resource conservation.

#### **SEC. 805. COMPLIANCE WITH OTHER LAWS.**

Following the conveyance required by section 803, the district, the State, Pershing County, and Lander County shall, with respect to the interests conveyed, comply with all requirements of Federal, State, and local law applicable to non-Federal water distribution systems.

#### **SEC. 806. REVOCATION OF WITHDRAWALS.**

Effective on the date of the conveyance required by section 803, the Secretarial Orders dated March 16, 1934, and April 6, 1956, that withdrew lands for the Rye Patch Reservoir and the Humboldt Sink, are hereby revoked.

#### **SEC. 807. LIABILITY.**

Effective on the date of the conveyance required by section 803, the United States shall not be held liable by any court for damages of any kind arising out of any act, omission, or occurrence relating to the Humboldt Project, except for damages caused by acts of negligence committed by the United States or by its employees or agents prior to the date of conveyance. Nothing in this section shall be considered to increase the liability of the



United States beyond that currently provided in chapter 171 of title 28, United States Code, popularly known as the Federal Tort Claims Act.

**SEC. 808. NATIONAL ENVIRONMENTAL POLICY ACT.**

Prior to any conveyance under this title, the Secretary shall complete all actions as may be required under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), and all other applicable laws.

**SEC. 809. FUTURE BENEFITS**

Upon conveyance of the lands and facilities by the Secretary under this title, the Humboldt Project shall no longer be a Federal reclamation project and the district shall not be entitled to receive any future reclamation benefits with respect to that project, except those benefits that would be available to other nonreclamation districts.



**APPENDIX C – MEMORANDUM OF AGREEMENT BETWEEN  
RECLAMATION AND PCWCD**



**MEMORANDUM OF AGREEMENT  
BETWEEN  
UNITED STATES OF AMERICA  
DEPARTMENT OF THE INTERIOR  
BUREAU OF RECLAMATION AND  
PERSHING COUNTY WATER CONSERVATION DISTRICT**

This Memorandum of Agreement (MOA) is made pursuant to the Reclamation Act of June 17, 1902 (32 Stat. 388), and acts amendatory thereof or supplementary thereto, between the **UNITED STATES OF AMERICA**, acting through the Bureau of Reclamation, Department of the Interior, hereinafter referred to as Reclamation, the **PERSHING COUNTY WATER CONSERVATION DISTRICT**, a public entity organized under the laws of the State of Nevada, with its principal place of business in Lovelock, Nevada, hereinafter referred to as the District.

WHEREAS, District seeks transfer of title to the Humboldt Project from the United States to the District, State, Lander County, Nevada ("Lander County") and Pershing County, Nevada ("Pershing County");

WHEREAS, On November 6, 2002, the President signed into law Title VIII of Public Law 107-282, hereinafter referred to as the "Humboldt Project Conveyance Act" or "the Act," attached hereto and by this reference made a part hereof;

WHEREAS, the Humboldt Project Conveyance Act directs the Secretary of the Interior, hereinafter the "Secretary" to convey all right, title, and interest in and to the lands and features of Humboldt Project, including all water rights for storage and diversion, to District, State, Lander County and Pershing County consistent with the terms and conditions set forth in the Memorandum of Agreement between District and Lander County, dated January 24, 2000, the Conceptual Agreement between District and State, dated October 18, 2001, the Letter of Agreement between Pershing County and State, dated April 16, 2002, and any agreements between District and Reclamation;

WHEREAS, the District, in executing this Memorandum of Agreement, agrees to represent the counties of Lander and Pershing in accordance with agreements between the District and each of the parties attached hereto and by this reference made a part hereof;

WHEREAS, the Act requires District to pay the United States the net present value of miscellaneous revenues associated with the lands and facilities to be conveyed:

WHEREAS, the Act required each entity, except the State, receiving title to withdrawn lands to pay the United States fair market value for such lands conveyed that were withdrawn from the public domain pursuant to the Secretarial Orders dated March 16, 1934, and April 6, 1956;

WHEREAS, the Act required administrative costs and National Environmental Policy Act of 1969, 42 U.S.C. 4321 et seq., compliance ("NEPA") costs for conveyance of any land or facility to be paid in equal shares by the Secretary and the entity receiving title to the land or facility except that the State shall not be responsible for any payment for land or facilities;

WHEREAS, the Act required that costs of all boundary surveys, title searches, cadastral surveys, appraisals, maps, and other real estate transactions required for the conveyance shall be paid by the entity receiving title to the land or facility except that the State shall not be responsible for any payments for land or facilities;

WHEREAS, the Act directs the Secretary to complete, prior to the conveyance of the designated lands and facilities, all actions necessary under the National Environmental Policy Act of 1969 (NEPA), the Endangered Species Act of 1973 (ESA), and all other applicable laws;

WHEREAS, under NEPA Reclamation is the lead agency with primary responsibility for NEPA compliance and compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA);

WHEREAS, under NEPA the District requested and Reclamation granted cooperating agency status to the District which requires District compliance with 40 CFR 1501.6;

WHEREAS, District intends to contract with a consultant approved by Reclamation to conduct NEPA activities;

WHEREAS, Reclamation has the ultimate responsibility to approve environmental analyses, prepared by the District or its contractors, associated with such a transfer;

WHEREAS, on December 1, 2003, the President signed into law the Energy and Water Development Appropriations Act of 2004 (P.L. 108-137) which superceded certain provisions of the Act and provides that:

In consultation with PCWCD the Commissioner shall expend \$270,000 for the State of Nevada's costs associated with the NEPA review of the Humboldt Title Transfer:  
*Provided*, That notwithstanding Public Law 107-282, section 804(d)-(f), the State of Nevada shall pay any other costs assigned to the State as an entity receiving title in Public Law 107-282, section 804(b)-(e) or due to any reconveyance under Public Law 107-282, section 804(f), including any such National Environmental Policy Act costs that exceed the \$270,000 expended by the Commissioner under this subparagraph.

NOW THEREFORE, pursuant to the statutes identified above, the parties agree as follows:

**1. Reclamation will be responsible for the following actions:**

a. Submit to Congress a map of the Humboldt Project Conveyance as required by the Act.

- b. Submit a report to Congress if transfer is not completed by April 30, 2004, pursuant to the requirements of the Act.
- c. Assure completion of all actions as may be required under NEPA, ESA, NHPA and all applicable laws.
- d. Reclamation is the lead agency with primary responsibility for NEPA compliance for the title transfer. Lead agency responsibility includes, but is not limited to, approval of the NEPA contractor selection; approval of scoping meeting format, content and locations; approval of alternatives to be analyzed; approval of response to comments; and approval of all draft and final documents.
- e. Recognize and consult with the District as a cooperating agency as outlined in the Council of Environmental Quality Regulations including 40 CFR 1501.6.
- f. Review the work of the District and/or any consultants engaged by the District, at appropriate intervals, to assure that the applicable procedural requirements of NEPA, ESA and other applicable State and Federal laws are met as required.
- g. Complete consultation and assure compliance as required by Section 7 of the ESA.
- h. Reclamation is responsible for coordinating Section 106 compliance including consultation with the State Historic Preservation Office, administering any cultural resource contracts and consulting with affected Tribes.
- i. Consult with the District as a cooperating party in the Section 106 process, as outlined in 36 CFR 800. Documents for Section 106 compliance will be provided to the District for a two-week review before they are submitted to SHPO. Reclamation retains responsibility for the content of all Section 106 documents.
- j. Identify and/or inventory and consult with Tribes on Indian Trust Assets and ensure the Secretary's Native American Trust Responsibilities are met consistent with applicable legislation.
- k. Provide copies, if so requested, of drawings and non-privileged legal documents currently in Reclamation's possession, that are associated with the lands, third-party agreements, rights-of-way, and facilities to be included in this title transfer.
- l. Perform other technical or administrative tasks associated with this title transfer as mutually agreed to in advance in writing by the parties. Provisions in these other contemplated agreements will cover funding of tasks specified in those agreements.
- m. Determine net present value of miscellaneous revenues associated with lands and facilities to be conveyed.
- n. Prepare transfer documents.

o. Complete a Level I contaminant survey checklist. Any necessary further analyses resulting from the checklist (including a Phase I environmental site assessment, or a Phase II environmental site assessment), and any necessary remediation or removal shall be completed at the direction of Reclamation.

**2. The District will be responsible, subject to Reclamation's review and approval as appropriate, for the following:**

a. Complete those activities required of a NEPA cooperating agency as set forth in 40 CFR 1501.6.

b. Complete NEPA documentation including cultural resource effects, endangered species effects or other documentation required by federal, state or local laws protecting the environment and submit to Reclamation for review and approval.

c. Based upon the map submitted to Congress, the District shall obtain any necessary boundary surveys, title searches, cadastral surveys, appraisals, maps and any other real estate work, including obtaining a dam permit from the Nevada Department of Water Resources required, for the conveyance of land or facilities to the District. Title searches and appraisals must be completed in accordance with Reclamation standards and policy. Any contracts for title searches and/or appraisals must be reviewed and approved by Reclamation prior to requests for proposals to insure those standards and policies are reflected in the scope of work. The final product must be approved by Reclamation.

d. Enter into any necessary agreements with the counties and the State.

e. Perform other technical or administrative tasks associated with the title transfer process as mutually agreed to in writing by both parties. Provisions in other agreements will cover funding of tasks specified in those agreements.

**3. Areas of mutual responsibility – Reclamation and District will:**

a. Appoint representatives to coordinate activities necessary to complete the authorized transfer. All requests to Reclamation relating to the transfer will go through Terri Edwards, Repayment Specialist, Lahontan Basin Area Office, Carson City, Nevada. All requests to District relating to this MOA will go through Bennie Hodges, District Manager, Pershing County Water Conservation District. Changes of appointed representatives may be made by notifying all parties in writing.

b. Cooperate to conduct the process in a manner that includes appropriate public and stakeholder participation as required by 40 CFR 1506.6(a).

c. Work cooperatively to determine the net present value of the of any revenue streams from the lands and facilities to be conveyed.

d. Responsibilities for any party may become the responsibility of another party if agreed to by all parties in writing, unless prohibited by law or regulation.



e. Any party may contract with another person or entity subject to the approval of the others for any of its obligations described herein.

f. Ensure that all contracts or obligations entered into relating to this MOA be revocable or contain provisions for cancellation, whereby the contracts or obligations may be terminated at any time upon request, so that the party will only be responsible for costs and expenditures incurred to the date of termination.

g. Provide copies, if so requested, to the other parties of all contracts, documents, invoices and other writings that evidence the party's obligations pursuant to this MOA.

**4. Costs - The provisions below relating to costs shall be subject to terms consistent with and subordinate to the Act:**

a. Miscellaneous Revenues: The Act at Section 804(a) requires the District to pay to the United States the net present value of miscellaneous revenues associated with the lands and facilities to be conveyed. Reclamation shall provide District its accounting of such miscellaneous revenues within 6 months of this agreement.

b. NEPA, ESA, NHPA, and Administrative Costs: The District and Reclamation agree to split all necessary and reasonable costs associated with the Humboldt Project Conveyance Act, Section 804(c) and (c) as follows.

i. Reclamation will pay half the costs;

ii. The entities receiving title shall pay the remaining half of the costs as follows:

(a) All NEPA costs, all ESA costs, all administrative costs and all general cultural resources costs (those that cannot be directly assigned to a specific property) will be split by the entities to receive title based on the percentage of land to be received. The District is receiving title to approximately 42% of the property to be transferred; Lander County approximately 1.3% of the property to be transferred; and Pershing County approximately 1.2% of the property to be transferred. The Counties' shares will be paid to the District by those Counties in advance pursuant to a separate agreement with the District. Approximately 55.5% of the property is to be transferred to the State. Congress authorized an appropriation of \$270,000 under the Energy and Water Development Appropriations Act of 2004 (P.L. 108-137) for the State's 55.5% share of NEPA related expenses payable through Reclamation. The State shall pay any other costs assigned to the State as an entity receiving title in section 804(b)-(e) of the Act including any such NEPA costs that exceed the \$270,000 expended by the Commissioner.

(b) Any land-specific cultural resource evaluation and mitigation measures that are undertaken for those lands to which the entity receives title shall be paid by that entity.

c. REAL ESTATE TRANSFER COSTS: Pursuant to Section 804 (d) of the Act, as a condition of any conveyance of any land or facility, costs of all boundary surveys, title searches, cadastral surveys, appraisals, and other real estate transactions required for the conveyance shall be paid by the entity receiving title to the land or facility. It is expected that each entity will pay for these services.

d. WITHDRAWN LANDS: Section 804 (b) of the Act and the Energy and Water Development Appropriations Act of 2004 provide that as a consideration for any conveyance of withdrawn lands, the entity receiving title shall pay the United States the fair market value for any such lands conveyed that were withdrawn from the public domain pursuant to the Secretarial Orders dated March 16, 1934 and April 6, 1956.

e. All costs of completing a Level I contaminant survey checklist shall be paid by Reclamation. Any necessary further analyses resulting from the checklist (including a Phase I environmental site assessment, or a Phase II environmental site assessment), and any necessary remediation or removal shall be completed at Reclamation's expense.

f. Ensure that the costs billed to title transfer and invoiced by the District and Reclamation pursuant to this MOA, shall be actual and reasonably necessary costs incurred to complete the proposed transfer activities.

g. Provide a cost report to the other party on a quarterly basis until this title transfer is complete. Each cost report shall itemize costs for all work performed and materials used in performing the obligations under this MOA.

h. Upon request, each party will provide to the other projections of expenses to be incurred by that party in connection with this title transfer.

i. District and Reclamation agree to take the necessary steps to equalize and minimize costs for activities associated with this title transfer;

j. Administrative Costs for the authorized title transfer will include but are not limited to the following:

- i. District and Reclamation salary, overhead, and contractor costs accrued for activities associated with this MOA;
- ii. Travel by District and Reclamation staff, including per diem and transportation costs, as required including development and negotiation of the terms for the authorized title transfer;
- iii. Photocopying and mailing by District and Reclamation of documents related to the authorized title transfer (e.g., documents needing public review and/or comment); and

k. Reclamation agrees to allocate authorized and appropriated funds as may become available for the performance of tasks described herein.

l. The parties may by subsequent written agreement documented as an amendment to this agreement pay other expenses including those that are the responsibility of the other.

## **5. Payment:**

a. Reclamation and District will establish unique cost accounts to track and account for the cost and expenses incurred pursuant to this MOA.

b. If Reclamation and the District determine that a binding contract with the District including the payment terms outlined in this MOA is necessary in order to provide a mechanism for Reclamation to obligate funding and pay the District for costs incurred by the District on Reclamation's behalf, Reclamation shall execute such a contract.

c. Monies shall be allocated under this agreement beginning November 17, 2002. Additional payments made pursuant to this MOA to Reclamation shall be submitted to Lahontan Basin Area Office, Attn: Terri Edwards, or her successor, 705 N. Plaza St., Rm 320, Carson City, NV 89701. Additional payments made pursuant to this MOA to District shall be submitted to Pershing County Water Conservation District in care of Bennie Hodges, or his successor, in Lovelock, NV.

d. Pursuant to the Act, each party shall pay the shares of administrative and NEPA costs as provided in Paragraph 4.b. above. District and Reclamation shall present invoices covering a 6 month period to the other within 60 days of the closing of the 6 month period. Equalizing payments shall be paid within 30 days thereafter. District will be responsible for invoicing Lander County and Pershing County for their respective payment in accordance with their agreements.

e. Pursuant to the Act, costs of all boundary surveys, title searches, cadastral surveys, appraisals, and other real estate transactions required for the conveyance shall be paid by the entity receiving title to the land or facility. Reclamation shall present invoices covering a 6 month period to the District within 60 days of the closing of the 6 month period. Equalizing payments shall be paid within 30 days thereafter. District will be responsible for paying the costs incurred for Lander County and Pershing County and invoicing them for their respective payment in accordance with their agreements.

f. At the time of execution of this MOA, the District and Reclamation will each present their accounting to that point and make any necessary equalizing payments. From the date of execution, accounting and equalizing payments will be made in accordance with paragraph 5.c. above.

g. The Energy and Water Development Appropriations Act of 2004 (P.L. 108-137) provided \$270,000 to Reclamation for the State's costs associated with the NEPA review. Accordingly, the District will invoice Reclamation for District costs attributable to the State for NEPA related activities. These invoices will be presented in accordance with section 5.d. above.

h. Within sixty (60) days after completion of title transfer or termination (for whatever reason) of the title transfer activities, the payments for NEPA, Administrative Costs and lands/realty costs between District and Reclamation will be equalized and paid pursuant to the Act.

## **6. General Provisions:**

a. The parties pledge their individual good faith to seek a prompt and fair agreement on all issues relating to this title transfer.

b. This MOA shall become effective on the date of the last signature hereto. This MOA may be modified, amended or terminated upon mutual written agreement of the parties hereto, but in any event will terminate two (2) years from the date of the MOA is signed or upon full execution of a quit claim deed transferring title, whichever occurs first, unless renegotiated and or renewed by mutual consent of both parties. Either party may terminate its obligations and duties under this MOA at any time upon thirty (30) days written notice to the other party. All duties and obligations of both parties under this MOA will cease at that time except as the MOA provisions relate to outstanding accounting and reimbursement of the parties' expenses.

c. Nothing herein shall be construed to obligate Reclamation to expend funds or obligate the United States of America in any contract or other obligation for the future payment of money in excess of appropriations authorized by law and administratively allocated for the purposes and projects contemplated hereunder. In case funds are not appropriated or allocated Reclamation shall incur no liability.

d. No Member or delegate to Congress, or resident Commissioner, shall be admitted to any share or to be part of this MOA or to receive any benefit that may arise out of it other than as a water user or landowner in the same manner as any other water user or landowner.

**IN WITNESS WHEREOF**, the parties hereto have executed this MOA as of the last date and signature below.

UNITED STATES OF AMERICA

Elizabeth Ann Rieke  
Bureau of Reclamation  
Elizabeth Ann Rieke, Area Manager  
Lahontan Basin Area Office

5/6/04  
Date

PERSHING COUNTY WATER CONSERVATION DISTRICT

Bennie B. Hodges  
Pershing County Water Conservation District  
Bennie B. Hodges, Manager

5/4/04  
Date

**APPENDIX D – CONCEPTUAL AGREEMENT BETWEEN  
PCWCD AND THE STATE OF NEVADA**



# PERSHING COUNTY WATER CONSERVATION DISTRICT OF NEVADA

PHONE 775-273-2293  
FAX# 775-273-2424  
E-MAIL: pcwcd@irrigation.lovelock.nv.us

POST OFFICE BOX 218  
LOVELOCK, NEVADA 89419

October 18, 2001

Mr. Michael Turnipseed  
Director  
Department of Conservation and Natural Resources  
123 West Nye Lane, Room 230  
Carson City, Nevada 89706-0818

## LETTER OF CONCEPTUAL AGREEMENT

Dear Mr. Turnipseed

Over the past several years, discussions and negotiations have taken place between representatives of the State of Nevada (State), the Pershing County Water Conservation District (District), the United States Bureau of Reclamation (Reclamation), Lander County and other parties for the purpose of reaching an agreement providing for transfer of title to lands near Battle Mountain and Lovelock, Nevada from the Federal Government to the District, Lander County and the State.

It is the intent of this letter to set forth concepts of agreement reached between the State and the District whereby both entities will pursue and support the transfer of title. It is recognized that the details of any agreement will be set forth in an agreement negotiated between the State and the District and signed by both parties.

To that end, the parties have agreed in principle to the following:

### RYE PATCH RESERVOIR AND HUMBOLDT SINK

1. The State will continue to construct, operate and maintain the recreation facilities at Rye Patch Reservoir in a manner that does not affect the operation of the Reservoir or the Humboldt Project. Such construction, operation and maintenance shall be in accordance with the Rye Patch State Recreation Area Master Plan. It is recognized that the Master plan may be revised as necessary in the future to meet future recreational demands and that such revisions will be made through a public process in which the District can participate.
2. The PCWCD and the State recognize that as a result of transferring the Humboldt Project, Title to PCWCD the State will lose the Reclamation Act funding that the Bureau of Reclamation has granted over the past decade. PCWCD will support the State in its efforts to replace these funds.

3. The District will guarantee a minimum pool of 3,000 acre-feet in Rye Patch Reservoir for maintenance of the fish. To assure this minimum pool, the District will reduce or cease all releases when the reservoir reaches a minimum of 3,000 acre feet of storage to make sure the reservoir does not drop below 3,000 acre feet due to releases.
4. The District and State will support legislation that transfers ownership of all Reclamation acquired land under and adjacent to the Reservoir and all "withdrawn" land below the high water mark of the reservoir to the District.
5. The District and State will support legislation that transfers ownership of all Reclamation "withdrawn" land above the high water mark of the reservoir in the vicinity of the reservoir to the State.
6. The District and the State will support legislation that transfers ownership of "withdrawn" lands in the Humboldt Sink, Toulon and Jessup to the State.
7. The State agrees that drainage water from Humboldt Project lands will continue to flow to the Humboldt sink.
8. The District and the State will enter into a long term agreement concerning the continued use of District land by the State for park office, shop and residence.
9. The District desires that the State continue to manage the recreation at Rye Patch Reservoir without interference from the District. Therefore, the State and the District will enter into a long term cooperative agreement for the State to administer the recreation and to construct, operate and maintain recreation related facilities at Rye Patch Dam and Reservoir similar to the existing Tri-Party agreement. The agreement will provide the State with the necessary authority to administer recreation on the District owned lands above and below the high water mark of the reservoir and the water surface of the reservoir. The District recognizes that the State must have the necessary authority to administer the recreation and control camping facilities, boat docks, launch ramps, buoys, etc. for recreational purposes. To insure long-term recreational use of the reservoir, the District will enter into a binding agreement that provides a long-term recreation easement to the State for those lands above and below the high water mark of the reservoir that will be transferred to the District.

#### COMMUNITY PASTURE

1. The District and the State will support legislation to transfer title to approximately 23,000 acres of land in the Community Pasture to the District.
2. The District and the State will support legislation to transfer title to approximately 5,850 acres of land in the Community Pasture to the State for purposes of creating a wetland.



The land to be transferred is identified as the northern portion of the Pasture from the eastern boundary through the Rock Creek drainage to the River Road adjacent to the Old Blossom Road Field #15.

3. The District shall have the privilege to graze the land transferred to the State until such time as development into a wetland begins. Such grazing shall be pursuant to a Grazing Plan developed by a mutually acceptable range consultant.
4. If grazing of the wetland is deemed a viable vegetation control practice by the State, the District shall have the first right of refusal to graze selected lands within the developed wetland.
5. If grazing is deemed a viable vegetation control practice by the State, the District shall have the first right of refusal to graze selected lands which the State may acquire in the future immediately adjacent to the Community Pasture.
6. The land to be transferred to the State will separate the land transferred to the District. In order to assure efficient grazing of the land transferred to the District, the State will provide reasonable access across their land for movement of cattle from one area to another within the Community Pasture.
7. The District will cooperate with the State in obtaining water rights for the proposed wetlands within the Community Pasture area.
8. The State shall assume responsibility for operation and maintenance of Slavin Diversion Dam near the East end of the Community Pasture in conjunction with other beneficial users of the facility when the facility is needed to divert water (purchased at some future date from willing sellers) to the developed land. After title to the facility is transferred to the State and before it is needed for diversion of water to the wetland, the District will continue to operate and maintain the facility. The district will allow access to the dam as needed by the State of Nevada and other beneficial users for the purpose of operating and maintaining the structure after that responsibility is assumed by the State.
9. The State and the District will support legislation to transfer title to approximately 1,100 acres of Community Pasture lands in the vicinity of the town of Battle Mountain to Lander County.
10. The District and the State will seek Federal funding for title transfer costs including but not limited to: NEPA documentation, Cultural Resources, property line surveying, etc.
11. The District and the State will support legislation to provide Federal funding for water rights acquisition and development of the proposed wetlands.

The District and the State shall freely exchange ideas and information in a cooperative manner on a continuing basis and shall use their best efforts to achieve the objectives of this letter in a timely

manner.

If you agree with the principles set forth in this letter, please indicate your concurrence below.

Sincerely,

*Mike Gottschalk*

Mike Gottschalk, President  
Board of Directors  
Pershing County Water Conservation District

Concurrence:

*Michael Turnipseed P.E.*

Michael Turnipseed, Director  
Department of Conservation and Natural Resources  
State of Nevada

Date

*10/25/01*

**APPENDIX E – LETTER OF AGREEMENT BETWEEN LANDER  
COUNTY AND PCWCD**



## MEMORANDUM OF AGREEMENT

This Agreement is made and entered into by and between Pershing County Water Conservation District (hereinafter referred to as “the District”) and Lander County, Nevada (hereinafter referred to by name or as “the County”).

### RECITALS:

1. The District was organized in 1926 under the name of the Lovelock Irrigation District. Its main purpose was to seek additional water storage sites on the Humboldt River. In the early 1900s, the Pitt-Taylor Reservoirs were constructed by the District’s predecessor, but the storage capacity of those reservoirs was insufficient to supply all the irrigation needs of the District.

2. In the early 1930s, negotiations began between the District and the Bureau of Reclamation (hereinafter “BOR”) in an attempt to create the Humboldt Project to store water. After studying the proposed project, the parties determined that the existing water rights appurtenant to District lands were inadequate to provide the District with a reliable source of dry year irrigation supply.

3. In 1933, in an attempt to acquire additional water rights for storage and use within the Humboldt Project, the District began to solicit willing sellers of both property and water rights upstream of the proposed reservoir. Two such willing sellers were the Filippini family who owned the Argenta Ranch and the Muleshoe Ranch, and the Aldous family who owned the Aldous Ranch. These three ranches comprised 29,450 acres northeast of the City of Battle Mountain, in Lander County, Nevada.

4. On January 27, 1934, the District and the Philippini Ranching Company entered

into a written agreement for the sale and purchase of the Argenta Ranch and the Muleshoe Ranch for the sum of \$181,000.00. Subsequently, on July 15, 1934, the District and Charles and Hortense Aldous entered into a similar written sales agreement for the Aldous Ranch for the sum of \$35,000.00. The future plans for these Lander County ranches and the appurtenant water rights were included in the purchase and sale agreements and the sales were conducted with full disclosure that a majority of the water rights would be transferred to the District lands in Pershing County.

5. Once these agreements were “in hand” between the District and the respective ranch owners in Lander County, the BOR expressed its willingness to assist. Upon these assurances, the District assigned the purchase and sale agreements to the BOR. In exchange, the BOR agreed to advance the money for the sale price of the ranches in Lander County. The District agreed to repay this sum pursuant to a written contract between the BOR and the District. Because the purchase of these Lander County ranches was completed with money authorized by Congress under the Humboldt Project, the lands are considered part of the Humboldt Project facilities.

6. The District has repaid the entire amount advanced by the BOR to acquire the ranch lands on behalf of the District, as well as the entire current cost obligation of Rye Patch dam and other Humboldt Project facilities. Now that this amount is repaid, the District is seeking to have the title to the project transferred to it.

7. After the Lander County ranches were purchased in 1934, the Nevada State Engineer approved a permanent transfer of the water rights that were appurtenant to the ranch lands downstream to the District facilities in Pershing County.

8. At the time of purchase of the Lander County ranches, and within the area of the Argenta Ranch and the Muleshoe Ranch, there existed an area known as the Argenta Marsh. After the transfer of the water rights from the Lander County ranches, and as part of the water rights change approvals, the Nevada State Engineer ordered that the lands be dewatered. In 1955, the marsh area was channelized to improve water conveyance in the Humboldt River adjacent to those lands.

9. Since 1941, the District has managed, operated and maintained the entire Humboldt Project at its own expense. Prior to 1951, grazing privileges for the Lander County ranches, commonly known as the Community Pasture, were held by individuals other than the District. Since 1951, the District has leased the Community Pasture pursuant to BOR guidelines which give the District preference due to the Community Pasture's status as part of the Humboldt Project. Seasonal grazing on the Community Pasture by District constituents continues to the present day.

10. As a result of all of the above, Lander County contends that it has been injured in several particulars.

WHEREAS, the District is now seeking title to the Humboldt Project from the BOR;

WHEREAS, the District desires Lander County to participate with it as an affected stakeholder in the title transfer process;

WHEREAS, Lander County recognizes the short and long-term benefits of its citizens to be derived from participation in the title transfer process;

NOW, THEREFORE, and in consideration of the mutual benefits to be received from this Agreement and the title transfer, and completely contingent on Congressional approval of such

title transfer, it is agreed between the District and Lander County as follows:

## **AGREEMENT**

1.     Cooperation. The parties acknowledge that the title transfer of the Humboldt Project between the District and the BOR is a long and involved process. The parties agree to cooperate with each other in all respects in effecting the title transfer. The parties further acknowledge that in the past there have been disagreements and some discord between them, and among and between the residents and patrons of their respective constituencies. The parties agree to expend their best efforts to put this history behind them and to work for the mutual benefit of accomplishing the title transfer. The parties additionally acknowledge that this Agreement is a compromise of past claims each may have against the other and for receipt of the mutual advantages received hereunder, the parties agree to forgo and forgive those claims.

2.     Transfer of Property to Lander County. As part of the title transfer process, and concurrent with title transfer to the District, the District and County agree that the federal government should also transfer to Lander County, the following real property:

Parcel A. The parcel located in Section 17, T.32N., R.45E., Mt. Diablo Meridian, underlying the livestock events center and surrounding area, including the Reese River Levy comprising approximately 135 acres. The legal description of Parcel A is contained in Exhibit A hereto and is incorporated herein by this reference. A detailed map depicting the approximate boundaries of Parcel A (labeled as the "Livestock Events Center Area") is attached hereto as Exhibit B and is incorporated herein by this reference.

Parcel B. The parcel located in Section 8, T.32N., R.45E. lying adjacent to the west (left) bank of the Humboldt River, and near White Bridge on Nevada State Route 806, on



which Lander County proposes to develop a low maintenance public recreation area, comprising approximately 30 acres. The legal description of Parcel B is contained in Exhibit A hereto and is incorporated herein by this reference. A detailed map depicting the approximate boundaries of Parcel B (labeled as the "Recreation Area") is attached hereto as Exhibit B and is incorporated herein by this reference.

Parcel C. The parcel located in Section 8, T.32N., R.45E. lying adjacent to the west bank of the Humboldt River, and near White Bridge on Nevada State Route 806, on which Lander County proposes to develop a parking lot for the adjacent low maintenance public recreation area, comprising approximately 1 acre. The legal description of Parcel C is contained in Exhibit A hereto and is incorporated herein by this reference. A detailed map depicting the approximate boundaries of Parcel C (labeled as the "Parking Area") is attached hereto as Exhibit B and is incorporated herein by this reference.

Parcel D. The parcel located northwest of the town of Battle Mountain and adjacent to the Battle Mountain Indian Colony, containing approximately 932 acres. The legal description of Parcel D is contained in Exhibit A hereto and is incorporated herein by this reference. A detailed map depicting the approximate boundaries of Parcel D (labeled as the "West Battle Mountain Area") is attached hereto as Exhibit B and is incorporated herein by this reference.

3. Retained Possession of Shop. For two years following the date upon which Lander County receives legal title to Parcel A, the District shall retain the exclusive right of possession and use of the metal shop building in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$  of Section 17, T.32N., R.45E. During this period of use, the District shall retain the right of continued access to the

structure across Parcel A. In addition, the District shall have the right to park vehicles in and around the immediate area surrounding the structure. At the expiration of this two year time period, the District shall vacate the premises, removing all District-owned equipment or fixtures, and the County shall accept the premises in an “AS IS” condition. If the District fails to remove any District-owned equipment, fixture, or other miscellaneous items, the County may request in writing that the District remove the property. If the District has not removed the items within thirty (30) days of receiving the County’s request, the County may remove and dispose of the items at the District’s expense.

4. Humboldt River Access Easement. As part of the title transfer process, and contingent upon successful title transfer to the District, the District agrees to grant to Lander County a permanent easement to a strip of land along either side of the centerline of the Humboldt River (“Access Easement”). The legal description of the easement is contained in Exhibit A hereto and is incorporated herein by this reference. A detailed map depicting the approximate area encumbered by the easement (labeled as the “Humboldt River Access Easement”) is attached hereto as Exhibit B and is incorporated herein by this reference.

4.1. Purpose of Easement. The Access Easement is granted with the intent that it shall be used solely for the purpose of providing members of the public with pedestrian access to the Humboldt River and the riparian lands adjacent to the River.

4.2. Scope of Easement. The Access Easement shall begin at the centerline of the Humboldt River where it intersects the northwest edge of Nevada State Route 806 (North Battle Mountain Highway) and shall extend in an northwesterly direction along the length of the Humboldt River a distance of approximately 4 miles to the west boundary of the Community

Pasture. It shall be limited only to that width necessary to create a 5 foot wide strip of dry land immediately adjacent to the river on each bank under non-flood conditions. The Access Easement is described in more detail on Exhibit A hereto.

4.3. Restrictions on Easement. The Access Easement shall be subject to the following restrictions:

4.3.1. Natural State. The Access Easement shall be maintained and used in its natural state, without any improvements of any kind. Lander County shall not add to or alter in any way nor permit others to add to or alter in any way, the fencing, vegetation, or drainage now present within the Access Easement, except as otherwise indicated by this Agreement. In addition, the County shall be responsible for regularly patrolling the Access Easement to insure that no trash or other refuse is present on the Access Easement.

4.3.2. Hours of Use. The Access Easement shall only be used by members of the public from one-half hour before sunrise to one-half hour after sunset. There shall be no overnight camping or after-hours access to the Access Easement or the adjacent portions of the Community Pasture.

4.3.3. No Improvements. Lander County shall not make nor permit others to make improvements to any portion of the Access Easement, except as follows: 1) Prior to opening the Access Easement to public use, Lander County must construct a fence around the recreation area parking lot with an immovable gate on the west (left) bank of the Humboldt River at the east end of the Access Easement in Section 8, T.32N., R.45E. This gate shall be constructed out of permanent materials, and shall be designed in a manner necessary to restrict the use of the Access Easement to human foot traffic; 2) Lander County may erect a second, identical

immovable gate on the east (right) bank of the Humboldt River at the east end of the Access Easement in Section 8, T.32N., R.45E, provided that all necessary permission is first obtained from the Nevada Department of Transportation; and 3) Lander County may erect one or more signs at the east end of the Access Easement in Section 8, T.32N., R.45E., which identify the easement and which set forth all relevant restrictions on the public's use of the Access Easement.

4.3.4. Foot Traffic Only. The Access Easement shall be used for human foot traffic only. No motorized vehicles, horses or other conveyances are permitted on the Access Easement. Any pets must be kept on a leash at all times.

4.4. Reverter. Failure to enforce and abide by the Access Easement restrictions set forth herein, or express abandonment of the Access Easement shall cause the Access Easement to revert to the District. Upon such reverter, all rights and benefits in and to the Access Easement conferred by this Agreement to Lander County shall terminate.

5. Fencing.

5.1. Existing Fencing. The parties recognize that the District will continue to use the Community Pasture for grazing after the transfer of title. The Community Pasture is currently enclosed by perimeter fencing which is vital to this activity. Therefore, the County agrees that it will not disturb, alter, or remove any portion of the existing perimeter fence without first constructing a new fence along the common boundary between the retained portion of the Community Pasture and the portion of the County property on which the County wishes to alter the existing fence.

5.2. Exclusion of Livestock. Consistent with Nevada law, if the County wishes

to exclude the District's livestock from any portion of the property to be granted to the County as described in this Agreement, it shall be the County's obligation to construct any fencing necessary to accomplish that task.

5.3. New Fence Cost. Any new fence constructed by the County pursuant to the obligations set forth in this Agreement shall be constructed at the sole and exclusive cost of the County; the District shall have no financial responsibility for such fence.

5.4. New Fence Quality. Any new fence constructed by the County pursuant to the obligations set forth in this Agreement shall be constructed to the standards set forth in NRS 569.431 (1997).

6. Liability. Lander County agrees to assume full liability for any and all damages incurred by the District as a result of the use of the Access Easement by the County or the general public. The assumption of liability under this paragraph expressly excludes any damage proximately caused by the District, the District's employees, agents, representatives, invitees, licensees, or guests.

7. Indemnification. Lander County agrees to indemnify the District to the extent allowed by Nevada law and hold the District harmless against any and all damages and expenses (including legal fees), claims, liabilities, causes of action, and demands of any nature whatsoever, arising out of or in any manner connected with the use of the Access Easement by the County or members of the public. This indemnification expressly excludes any action or demand of whatever nature brought by a District employee, agent, representative, invitee, licensee, or guest against the District and shall not include any damages or injury proximately caused by the District, the District's employees, agents, representatives, agents, invitees, licensees or guests. The parties

understand that the Access Easement is located in the annual floodplain of the Humboldt River. It is a dynamic natural area subject to erosion, flooding, and debris accumulation. The servient property is not maintained nor monitored by the District. Therefore, the District expressly disclaims all responsibility for the condition of the Access Easement or the servient property and any hazards--natural or man-made--that may exist now or in the future.

8. Hazardous Materials. The parties recognize that Parcels A, B, C, and D, together with the retained portion of the Community Pasture, are agricultural property. The past owners and occupants of the property have used the property for agricultural purposes in compliance with the applicable laws then in effect. The parties acknowledge that as a result of such activities, there may now be agricultural residues, wastes, or by-products present on the property. Notwithstanding the existence of such agricultural residues, wastes, or by-products, to the best of the District's knowledge, there are no areas of the property where hazardous or toxic materials or substances have either been disposed of, discharged, or found.

9. Payment of Transactional Costs. Except as specifically provided herein, each party shall be solely responsible for the payment of all transactional costs attributable to the portion of the Humboldt Project to which the party is seeking title. Such costs may include, but are not limited to the following: title research, surveys, NEPA compliance, cultural resources surveys, hazardous materials inspection, and document preparation costs.

9.1. Lander County Costs. Except as specifically provided herein, Lander County shall be solely responsible for any and all transactional costs related to the acquisition of Parcels A, B, C, and D; the District shall have no financial responsibility for such costs.

9.2. District Costs. Except as specifically provided herein, the District shall be

solely responsible for any and all transactional costs related to the acquisition of the retained portion of the Community Pasture. The County shall have no financial responsibility for such costs.

9.3. Shared Survey Costs. If required by BOR or Congress, the parties shall equally share the costs of surveying and monumenting any common boundary lines between Parcels B, C, or D and the retained portion of the Community Pasture.

9.4. Federal Funding. To the extent that federal funds are available to defer the transactional costs associated with title transfer, those funds shall be apportioned between the District and Lander County in proportion to the acreage that each party is seeking to acquire. This provision shall not include any funds available to the District because of prior credits owed to the District by the Federal government.

9.5. Transfer Not Contingent on Other Party's Payment. The District and Lander County agree that the title transfer legislation submitted to Congress shall contain a provision that either the District or the County may receive title to their respective portion of the Humboldt Project regardless of whether the other party has completed payment of all transactional costs associated with title transfer. This provision does not otherwise modify the requirement that the District must first receive Congressional approval for title transfer of the retained portions of the Humboldt Project before any of the property described herein may be transferred to Lander County.

10. Agreement to Perform Necessary Acts. Each party to this Agreement agrees to perform any further acts and to execute and deliver any and all instruments and documents that may be necessary or reasonable for the accomplishment of any purpose or performance of any

provision of this Agreement.

11. Lander County Support of Title Transfer. In exchange for the benefits to be conferred upon Lander County under this Agreement, Lander County agrees to support the District's title transfer efforts, contingent upon resolution of concerns relating to the proposed Argenta Marsh to the satisfaction of the Bureau of Reclamation's Lahontan Basin Area Manager. Upon such Bureau approval, the County shall in no event oppose or take any position contrary to the District which could reasonably impede the District's efforts to obtain title to the Humboldt Project.

12. Term. This Agreement shall expire on the last day of the Second Session of the 107th United States Congress, unless Congress has approved title transfer of the Humboldt Project prior to that time, in which case the Agreement shall remain in full force and effect.

13. Notice.

13.1. To Pershing County Water Conservation District. Any notice, demand, or request required or authorized by this Agreement to be provided to the District shall be effective if delivered by mail, postage prepaid to: Manager, Pershing County Water Conservation District, P.O. Box 218, Lovelock, NV 89409.

13.2. To Lander County. Any notice, demand, or request required or authorized by this Agreement to be provided to Lander County shall be effective if delivered by mail, postage prepaid to: Lander County Manager, 315 S. Humboldt, Battle Mountain, NV 89820.

14. Third Parties. Nothing in this Agreement, whether express or implied, is intended to confer any right or remedy under or by reason of any provision of this Agreement upon any person other than a party to this Agreement. Nothing in this Agreement is intended to relieve or



discharge the obligation or liability of any third person to any party to this Agreement. No provision of this Agreement shall give any third party any right of subrogation or right of action over or against any party to this Agreement.

15. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original and all of which together shall constitute one and the same instrument.

16. Entire Agreement. This Agreement contains the entire agreement of the parties with respect to the matters covered herein, and no other agreement, statement, or promise made by any party, or to any employee or agent of any party, which is not contained in this Agreement shall be binding or valid. Further, there are no representations, agreements, arrangements or understandings, either oral or written, between the parties hereto relating to the subject matters contained in this Agreement which are not fully expressed herein.

17. Time of Essence. Time is expressly declared to be the essence of this Agreement, and of each provision contained herein.

18. Modification. This Agreement is not subject to modification except through an amendment in writing signed by both parties hereto.

19. Severability. If any term, covenant, condition or provision of this Agreement is held by either the BOR or a court of competent jurisdiction to be invalid, void or unenforceable, the remainder of the provisions shall remain in full force and shall in no way be affected, impaired or invalidated.

20. Interpretation of Language. The language of all parts of this Agreement shall in all cases be simply construed according to its fair meaning and not strictly for or against any party

hereto.

21. Captions. Captions of the articles, sections and paragraphs of this Agreement are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify or aid in the interpretation, construction or meaning of the provisions of this Agreement.

22. Nonassignability. This Agreement shall not be assigned to any other party.

23. Governing Law. All questions with respect to the construction of this Agreement, and the rights and liabilities of the parties hereto, shall be governed by the laws of the State of Nevada.

IN WITNESS WHEREOF, we have signed this Agreement on the dates affixed below.

Dated: Jan 5, 2000

PERSHING COUNTY WATER  
CONSERVATION DISTRICT

By: Mike Gottshalk  
Mike Gottshalk, President  
Board of Directors

Dated: January 24<sup>th</sup>, 2000  
LANDER COUNTY

By: Bill Elquist  
~~Cheryl Hyman~~, Chairperson  
Lander County Board of Commissioners  
Bill Elquist

Attest:

Audrey E. Meyer  
Clerk

Approved as to Form:

Laura A. Schroeder  
Laura A. Schroeder  
District Counsel

Approved as to Form:

Leon Aberasturi  
Leon Aberasturi  
Assistant District Attorney

**EXHIBIT A**  
**TO**  
**MEMORANDUM OF AGREEMENT**  
BETWEEN PERSHING COUNTY WATER CONSERVATION DISTRICT  
AND LANDER COUNTY, NEVADA

LEGAL DESCRIPTION OF PARCELS TO BE TRANSFERRED TO LANDER COUNTY

Parcel A (Livestock events center and surrounding property):

All that portion of the SE $\frac{1}{4}$  of Sec. 17, T.32N., R.45E., Mt. Diablo Meridian, Lander County, Nevada, that is owned by the United States Bureau of Reclamation (containing 135 acres more or less).

Parcel B (Recreation area):

All those portions of the E $\frac{1}{2}$ NW $\frac{1}{4}$  of Sec. 8, T.32N., R.45E., Mt. Diablo Meridian, Lander County, Nevada, lying east of Nevada State Route 806 (North Battle Mountain Highway) and southwest of the centerline of the Humboldt River (containing 30 acres more or less).

Parcel C (Recreation area parking lot):

All those portions of the S $\frac{1}{2}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$  and the N $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$  of Sec. 8, T.32N., R.45E., Mt. Diablo Meridian, Lander County, Nevada lying west of the centerline of the Humboldt River and Nevada State Route 806 (North Battle Mountain Highway) (containing 1 acre more or less).

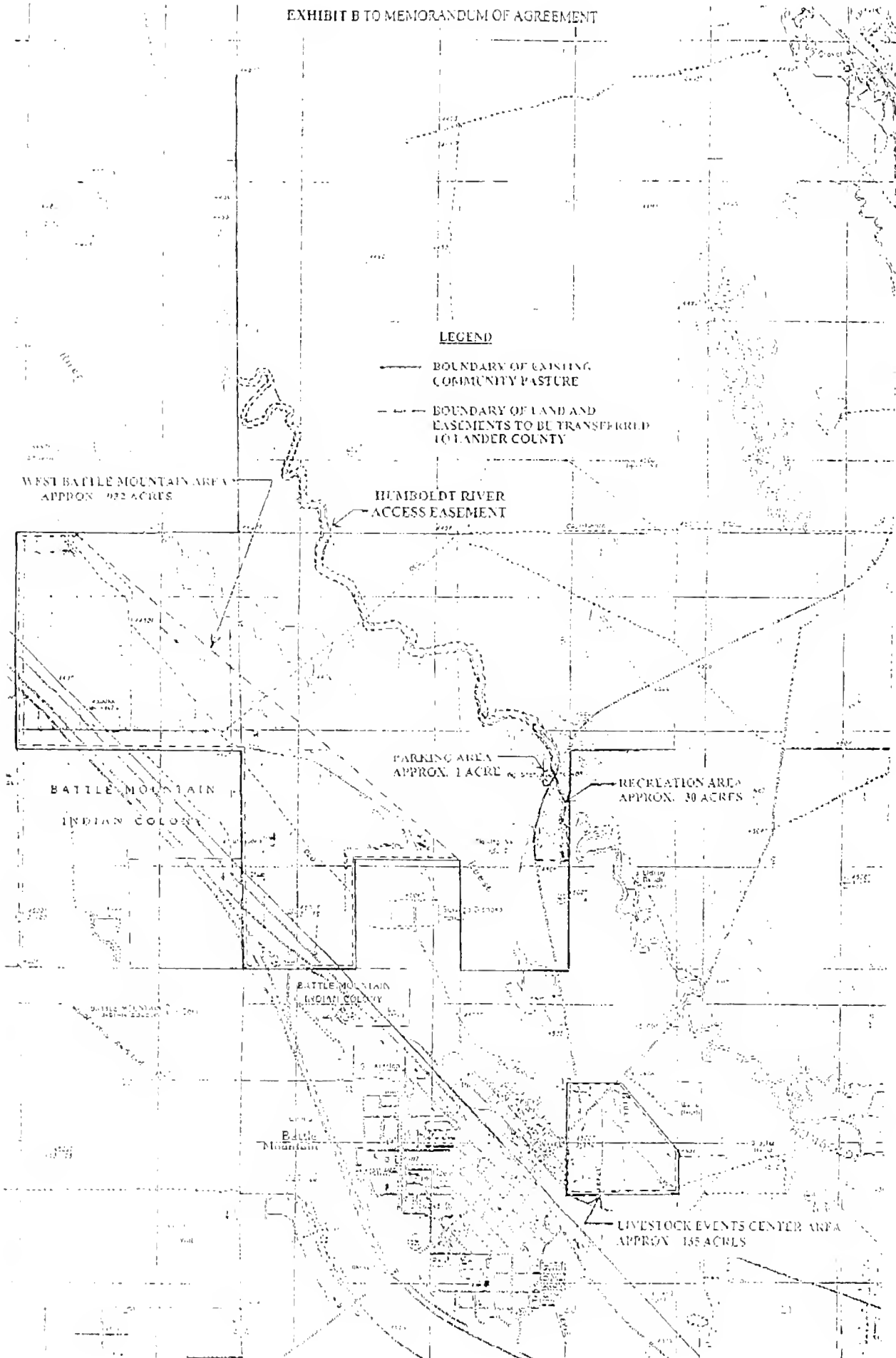
Parcel D (West Battle Mountain property):

All that property located within the area described by a line running from the point of beginning at the East  $\frac{1}{4}$  Cor. of Sec. 7, T.32N., R.45E., Mt. Diablo Meridian, Lander County, Nevada, west approximately 2,640 feet to the center of said Sec. 7; thence south approximately 2,640 feet to the South  $\frac{1}{4}$  Cor. of Sec. 7; thence west approximately 2,640 feet to the SW Cor. of Sec. 7; thence north approximately 5,280 feet to the NW Cor. of Sec. 7; thence west approximately 5,280 feet to the SW Cor. of Sec. 1, T.32N., R.44E; thence north approximately 5,280 to the NW Cor. of said Sec. 1; thence east along the northerly line of said Sec. 1 approximately 1,320 feet; thence southeasterly approximately 12,170 feet to the point of beginning (containing 932 acres more or less).

Humboldt River Access Easement:

A strip of land extending from either side of the centerline of the Humboldt River only so far as necessary to create a 5 foot wide strip of dry land immediately adjacent to the river on either bank during non-flood conditions. The Access Easement shall begin at a point in Section 8, T.32N., R.45E., Mt. Diablo Meridian, Lander County, Nevada on the northwest side of the "White Bridge" on Nevada State Route 806 (North Battle Mountain Highway) where it is intersected by the Humboldt River, extending along said centerline approximately 4 miles to the point of termination located at the point where the centerline of the Humboldt river first intersects the west boundary line of Section 31, T.32N., R.44E., Mt. Diablo Meridian, Lander County, Nevada.

EXHIBIT B TO MEMORANDUM OF AGREEMENT



**APPENDIX F – LETTER OF AGREEMENT BETWEEN  
PERSHING COUNTY AND THE STATE OF NEVADA**



# BOARD OF COUNTY COMMISSIONERS

PERSHING COUNTY  
P.O. DRAWER E  
LOVELOCK, NEVADA 89419

April 16, 2002

Honorable U.S. Senator Harry Reid  
528 Hart Senate Office Building  
Washington, D.C. 20510

Honorable U.S. Senator John Ensign  
364 Russell Senate Office Building  
Washington, D.C. 20510-0001

Honorable U.S. Representative Jim Gibbons  
100 Cannon House Office Building  
Washington, D.C. 20515-001

Re: Humboldt Project Title Transfer

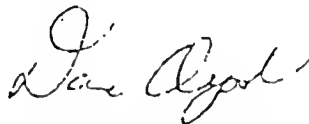
Dear Gentlemen:

Pershing County, Pershing County Water Conservation District and the Nevada Department of Wildlife all agree that as part of the Humboldt Project title transfer, Pershing County will receive 1 ½ sections of Bureau of Reclamation land around Derby Airport. Pershing County presently has these sections leased and Pershing County's airport extends onto these two sections.

We would request that the legislation which will be presented to Congress include the language that all of Section 36, T. 26 N. R. 30 E. and the East ½ of Section 2, T. 25 N., R. 30 E. go to Pershing County.

Thank you very much for your assistance with this important matter. Please contact Pershing County District Attorney, Belinda Quilici at (775) 273-2613 if you have any questions or require additional information.

Sincerely,



Dave Ayoob, Chairman  
Pershing County Commissioners





**APPENDIX G – H. R. 2754 – ENERGY AND WATER  
DEVELOPMENT APPROPRIATIONS BILL**



## **HR 2754 -- ENERGY AND WATER DEVELOPMENT APPROPRIATIONS BILL**

The Humboldt Project Conveyance Act provides that title transfer activities will be funded by the Bureau of Reclamation and the public entity receiving title to the land or facility being transferred. One exception this general requirement was that the State of Nevada would not be responsible for payment of administrative costs, real estate costs and real estate transfer costs, and NEPA costs.

On December 1, 2003, the president signed into law HR 2754 -- Conference Report: H Rept 108-357, ENERGY AND WATER DEVELOPMENT APPROPRIATIONS BILL, FY 2004

This legislation provides Funding for Energy Department operations, including defense-related programs, as well as the Army Corps of Engineers, water-related projects of the Interior Department and independent agencies such as the Nuclear Regulatory Commission.

Specifically, Section 217 (a) (3) provides:

*In carrying out section 2507 of Public Law 107-171, title II, subtitle F, the Secretary of Interior, acting through the Commissioner of Reclamation, shall*

*In consultation with the Pershing County Water Conservation District, the Commissioner shall expend \$270,000 for the State of Nevada's costs associated with the National Environmental Policy Act review of the Humboldt Title Transfer: Provided, That notwithstanding Public Law 107-282, section 804(d)-(f), the State of Nevada shall pay any other costs assigned to the State as an entity receiving title in Public Law 107-282, section 804(b)-(e) or due to any reconveyance under Public Law 107-282, section 804(f), including any such National Environmental Policy Act costs that exceed the \$270,000 expended by the Commissioner under this subparagraph.*



## **APPENDIX H – CORRESPONDENCE WITH U.S. FISH AND WILDLIFE SERVICE**





## United States Department of the Interior

Fish and Wildlife Service  
Nevada Fish and Wildlife Office  
1340 Financial Boulevard, Suite 234  
Reno, Nevada 89502-7147  
Phone: (775) 861-6300, Fax: (775) 861-6301

March 3, 2003  
File No. 1-5-03-SP-096

### Memorandum

To: Caryn Hunt DeCarlo, Environmental Specialist, Bureau of Reclamation,  
Carson City, Nevada

From: Field Supervisor, Nevada Fish and Wildlife Office, Reno, Nevada

Subject: Species List Request for the Proposed Bureau of Reclamation Humboldt Project  
Transfer

In response to your memorandum received on February 14, 2003, we have attached a list of threatened species which may occur in the proposed Bureau of Reclamation Humboldt Project Transfer (Attachment A). The project includes three different sites: 1) Humboldt Sink; 2) Rye Patch Dam and Reservoir; and 3) Battle Mountain Community Pasture. We have combined our response into one list which is keyed to each site. This list fulfills the requirement of the Fish and Wildlife Service (Service) to provide information on listed species pursuant to section 7(c) of the Endangered Species Act of 1973, as amended, for projects that are authorized, funded, or carried out by a Federal agency.

For your consideration, Attachment A contains a list of other species of concern to the Service which may occur in the project area. The Service has used information from State and Federal agencies and private sources to assess the conservation needs and status of these species. Further biological research and field study are needed to resolve their conservation status. By considering these species and exploring management alternatives early in the planning process, it may be possible to provide long-term conservation benefits for these species and avoid future conflicts that could otherwise develop. We recommend that you contact the Nevada Natural Heritage Program [1550 East College Parkway, Suite 137, Carson City, Nevada 89710, (775) 687-4245] and the appropriate regional office of the Nevada Division of Wildlife, as well as other local, State, and Federal agencies for distribution data and information on the conservation needs of these and other species of concern.

Caryn Hunt DeCarlo

File No. 1-5-03-SP-096

Please reference File No. 1-5-03-SP-096 in future correspondence concerning this species list. If you have any questions or require additional information, please contact me or Chad Mellison at (775) 861-6300.



For Robert D. Williams

Attachment

RECEIVED

MAR 06 2003

BUREAU OF RECLAMATION  
Chester Basin, NV 89410

CODE	PERSON RESP	INITIAL & DATE
100	✓	
101	✓	Copy 3/10/03
105	✓	
110		
400		
700		
900		
450	✓	Copy 3/10/03



**ATTACHMENT A**

**THREATENED SPECIES  
AND SPECIES OF CONCERN**  
that may occur in the area of the  
**PROPOSED BUREAU OF RECLAMATION  
HUMBOLDT PROJECT TRANSFER**  
Churchill, Lander, and Pershing Counties, Nevada  
File No. 1-5-03-SP-096; March 3, 2003

**Threatened Species****Bird**

Bald eagle

*Haliaeetus leucocephalus* (4)**Species of Concern****Mammals**

Pygmy rabbit

*Brachylagus idahoensis* (4)

Townsend's big-eared bat

*Corynorhinus townsendii* (4)

Spotted bat

*Euderma maculatum* (4)

Small-footed myotis

*Myotis ciliolabrum* (4)

Long-eared myotis

*Myotis evotis* (4)

Fringed myotis

*Myotis thysanodes* (4)

Long-legged myotis

*Myotis volans* (4)

Yuma myotis

*Myotis yumanensis* (1)**Birds**

Northern goshawk

*Accipiter gentilis* (4)

Western burrowing owl

*Athene cunicularia hypugaea* (4)

Ferruginous hawk

*Buteo regalis* (3)

Sage grouse

*Centrocercus urophasianus*

Black tern

*Chlidonias niger* (4)

Least bittern

*Ixobrychus exilis hesperis* (4)

White-faced ibis

*Plegadis chihi* (4)**Invertebrate**

Nevada viceroys

*Limemitis archippus lahontani* (2, 3)**Plants**

Windloving buckwheat

*Eriogonum anemophilum* (1, 3)

Nevada oryctes

*Oryctes nevadensis* (1, 2)

Nevada dune beardtongue

*Penstemon arenarius* (1)**KEY**

- 1 Humboldt Sink
- 2 Rye Patch
- 3 Battle Mountain Community Pasture
- 4 All Three Areas



## **APPENDIX I- WILDLIFE SPECIES ASSOCIATED WITH THE HUMBOLDT RIVER AND ITS TRIBUTARIES**



# **Appendix I** **Wildlife Species Potentially Occurring on Humboldt Project Transfer Lands**

Common Name	Scientific Name	Potential Occurrence		
		Humboldt Sink	Rye Patch Reservoir	Battle Mountain Community Pasture
Birds (A & B)				
Cooper's Hawk	<i>Accipiter cooperii</i>	•	•	
Northern Goshawk	<i>Accipiter gentilis</i>	•	•	•
Sharp-shinned Hawk	<i>Accipiter velox</i>	•		
Spotted Sandpiper	<i>Actinonanus macularius</i>	•		•
Clark's Grebe	<i>Aechmophorus occidan</i>	•		
Western Grebe	<i>Aechmophorus occiden</i>		•	•
Northern Saw-whet Owl	<i>Accipiter sawwhet</i>	•		
White-throated Swift	<i>Icthyophaga alpestris</i>	•		•
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	•	•	•
Tricolored Blackbird	<i>Agelaius tricolor</i>	•	•	•
Cassin's Sparrow	<i>Amphispiza bilineata</i>		•	
Wood Duck	<i>Aixya americana</i>	•	•	
Chukar	<i>Bucconia americana</i>	•	•	
Grasshopper Sparrow	<i>Amphispiza bilineata</i>			
Sage Sparrow	<i>Amphispiza bilineata</i>	•		
Black-throated Sparrow	<i>Amphispiza bilineata</i>	•		
Northern Pintail	<i>Anas platyrhynchos</i>	•	•	•
American Widgeon	<i>Anas platyrhynchos</i>	•	•	•
Northern Shoveler	<i>Anas platyrhynchos</i>	•	•	•
Green-winged Teal	<i>Anas platyrhynchos</i>	•	•	•
Cinnamon Teal	<i>Anas platyrhynchos</i>	•	•	•
Blue-winged Teal	<i>Anas platyrhynchos</i>	•	•	•
Mallard	<i>Anas platyrhynchos</i>	•	•	•
Cadwall	<i>Anas platyrhynchos</i>	•	•	•
White-fronted Goose	<i>Anas platyrhynchos</i>	•	•	•
American Pipit	<i>Anthus trivialis</i>	•	•	•
Western Scrub Jay	<i>Aphelocoma occidentalis</i>	•	•	•
Golden Eagle	<i>Aquila chrysaetos</i>	•	•	•
Black-chinned Hummingbird	<i>Archimedes alexandri</i>	•	•	•
Great Egret	<i>Ardea herodias</i>	•	•	•
Great Blue Heron	<i>Ardea herodias</i>	•	•	•
Short-eared Owl	<i>Asio flammeus</i>	•	•	•
Long-eared Owl	<i>Asio otus</i>	•	•	•
Burrowing Owl	<i>Atypus americanus</i>	•	•	•
Lesser Scaup	<i>Atya americana</i>	•	•	•
Redhead	<i>Atya americana</i>	•	•	•
Ring-necked Duck	<i>Atya americana</i>	•	•	•
Greater Scaup	<i>Atya americana</i>	•	•	•
Canvasback	<i>Atya americana</i>	•	•	•
Jumper Titmouse	<i>Baeolophus inornatus</i>	•	•	•
Cedar Waxwing	<i>Bombycilla cedrorum</i>	•	•	•
Bohemian Waxwing	<i>Bombycilla garrulus</i>	•	•	•
American Bittern	<i>Botaurus lentiginosus</i>	•	•	•
American Brant	<i>Branta americana</i>		•	
Canada Goose	<i>Branta canadensis</i>	•	•	
Great Horned Owl	<i>Bubo virginianus</i>	•	•	•
Cattle Egret	<i>Bubulcus ibis</i>		•	•
Buttlehead	<i>Bucconia americana</i>	•		
Common Goldeneye	<i>Bucephala clangula</i>	•	•	
Barrow's Goldeneye	<i>Bucephala clangula</i>	•		
Red-tailed Hawk	<i>Bubo americanus</i>	•	•	•
Rough-legged Hawk	<i>Bubo lagopus</i>	•	•	
Fenugmous Hawk	<i>Bubo virginianus</i>	•	•	•
Swamson's Hawk	<i>Bubo swainsoni</i>	•	•	•
Green Heron	<i>Burhinus bistreus</i>	•	•	•

## Appendix I

### Wildlife Species Potentially Occurring on Humboldt Project Transfer Lands

Common Name	Scientific Name	Potential Occurrence		
		Humboldt Sink	Rye Patch Reservoir	Battle Mountain Community Pasture
Lark Bunting	<i>Calamospiza melanocorys</i>	•		
Sanderling	<i>Calidris alba</i>	•		
Dunlin	<i>Calidris alpina</i>	•		
Western Sandpiper	<i>Calidris mauri</i>	•	•	•
Least Sandpiper	<i>Calidris minutilla</i>	•		
California Quail	<i>Callipepla californica</i>	•	•	•
Pine Siskin	<i>Carduelis pinus</i>	•		
Lesser Goldfinch	<i>Carduelis psaltria</i>	•	•	•
American Goldfinch	<i>Carduelis tristis</i>	•	•	•
Cassin's Finch	<i>Carduelis cassinii</i>	•		
House Finch	<i>Carduelis mexicanus</i>	•	•	•
Turkey Vulture	<i>Cathartes aura</i>	•	•	•
Hermit Thrush	<i>Catharus guttatus</i>	•		
Swainson's Thrush	<i>Catharus ustulatus</i>	•		
Rock Wren	<i>Catherpes mexicanus</i>	•	•	
Willet	<i>Centropus semipalmatus</i>	•		•
Sage Grouse	<i>Centrocercus urophasianus</i>	•	•	•
Brown Creeper	<i>Certhia americana</i>	•		
Belted Kingfisher	<i>Ceryle alcyon</i>	•	•	•
Vaux's Swift	<i>Chaetura vauxi</i>	•		
Snowy Plover	<i>Charadrius alexandrinus</i>	•		
Mountain Plover	<i>Charadrius montanus</i>	•	•	•
Semipalmated Plover	<i>Charadrius semipalmatus</i>	•		
Killdeer	<i>Charadrius vociferans</i>	•	•	•
Snow Goose	<i>Chen caerulescens</i>	•		
Ross's Goose	<i>Chen rossii</i>	•	•	
Black Tern	<i>Chelidon nigricans</i>	•	•	•
Lark Sparrow	<i>Chondestes grammacus</i>	•		
Lesser Nighthawk	<i>Chondestes acutirostris</i>			
Common Nighthawk	<i>Chondestes umier</i>	•		•
American Dipper	<i>Cinclus mexicanus</i>	•	•	•
Northern Harrier	<i>Circus cyaneus</i>	•	•	•
Marsh Wren	<i>Cistothorus palustris</i>	•	•	•
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	•		
Northern Flicker	<i>Colaptes auratus</i>	•	•	
Rock Dove	<i>Columba livia</i>	•	•	•
Olive-sided Flycatcher	<i>Contopus cooperi</i>	•	•	•
Western Wood-Pewee	<i>Contopus sordidulus</i>	•		
American Crow	<i>Corvus brachyrhynchos</i>	•	•	•
Common Raven	<i>Corvus corax</i>	•	•	•
Trumpeter Swan	<i>Cygnus buccinator</i>	•	•	
Whistling (tundra) Swan	<i>Cygnus columbianus</i>	•	•	
Yellow-rumped Warbler	<i>Dendroica coronata</i>	•	•	•
Townsend's Warbler	<i>Dendroica townsendi</i>			
Black-throated Gray Warbler	<i>Dendroica nigrescens</i>	•		
Yellow Warbler	<i>Dendroica petechia</i>	•	•	•
Bobolink	<i>Dolichonyx oryzivorus</i>	•	•	•
Snowy Egret	<i>Egretta thula</i>	•	•	•
Western Flycatcher	<i>Empidonax difficilis</i>	•	•	•
Hammond's Flycatcher	<i>Empidonax hammondi</i>	•	•	
Condillera Flycatcher	<i>Empidonax occidentalis</i>	•	•	
Willow Flycatcher	<i>Empidonax traillii</i>	•	•	•
Gray Flycatcher	<i>Empidonax wrightii</i>	•	•	
Horned Lark	<i>Lemophila alpestris</i>	•	•	•
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	•	•	•
Martin	<i>Falco columbarius</i>	•	•	•
Prarie Falcon	<i>Falco mexicanus</i>	•	•	•
Peregrine Falcon	<i>Falco peregrinus</i>	•	•	•
American Kestrel	<i>Falco sparverius</i>	•	•	•

# Appendix I

## Wildlife Species Potentially Occurring on Humboldt Project Transfer Lands

Common Name	Scientific Name	Potential Occurrence		
		Humboldt Sink	Rye Patch Reservoir	Battle Mountain Community Pasture
American Crow	<i>Corvus americanus</i>	•	•	•
Common Snipe	<i>Gallinago gallinago</i>	•	•	•
Common Moorhen	<i>Gallinula chloropus</i>	•	•	•
Pacific Loon	<i>Gavia pacifica</i>	•	•	•
Common Yellowthroat	<i>Geothlypis trichas</i>	•	•	•
Northern Pygmy Owl	<i>Glaucidium nana</i>	•	•	•
Sandhill Crane	<i>Grus canadensis</i>	•	•	•
Blue Grosbeak	<i>Guiraca caerulea</i>	•	•	•
Bald Eagle	<i>Haliaeetus leucocephalus</i>	•	•	•
Black-necked Stilt	<i>Himantopus mexicanus</i>	•	•	•
Barn Swallow	<i>Hirundo lunifrons</i>	•	•	•
Yellow-breasted Chat	<i>Icterus parisorum</i>	•	•	•
Bullock's Oriole	<i>Icterus bullockii</i>	•	•	•
Least Bittern	<i>Icthyophaga minima</i>	•	•	•
Dark-eyed Junco	<i>Junco hyemalis</i>	•	•	•
Northern Shrike	<i>Lanius borealis</i>	•	•	•
Loggerhead Shrike	<i>Lanius ludovicianus excubitorides</i>	•	•	•
Herring Gull	<i>Larus argentatus</i>	•	•	•
Ring-billed Gull	<i>Larus delawarensis</i>	•	•	•
Bonaparte's Gull	<i>Larus delawarensis</i>	•	•	•
Franklin's Gull	<i>Larus delawarensis</i>	•	•	•
Short-billed Dowitcher	<i>Limosa borealis</i>	•	•	•
Long-billed Dowitcher	<i>Limosa longirostris</i>	•	•	•
Marbled Godwit	<i>Limosa maculosa</i>	•	•	•
Hooded Merganser	<i>Mergus americanus</i>	•	•	•
Forster's Woodpecker	<i>Melanerpes formicivorus</i>	•	•	•
Wild Turkey	<i>Meleagris gallopavo</i>	•	•	•
Lincoln's Sparrow	<i>Melospiza lincolni</i>	•	•	•
Song Sparrow	<i>Melospiza cinerea</i>	•	•	•
Common Morgan	<i>Melospiza cinerea</i>	•	•	•
Red-breasted Merganser	<i>Mergus americanus</i>	•	•	•
Northern Mockingbird	<i>Mimus polyglottos</i>	•	•	•
Brown-headed Cowbird	<i>Molothrus ater</i>	•	•	•
Townsend's Solitaire	<i>Myadestes townsendi</i>	•	•	•
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>	•	•	•
Long-billed Curlew	<i>Nycticorax nycticorax</i>	•	•	•
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	•	•	•
MacGillivray Warbler	<i>Oporornis tolmiei</i>	•	•	•
Sage Thrasher	<i>Oreoscoptes montanus</i>	•	•	•
Western Screech Owl	<i>Otus scops</i>	•	•	•
Ruddy Duck	<i>Oxyechus erythrorhynchos</i>	•	•	•
Osprey	<i>Pandion haliaetus</i>	•	•	•
House Sparrow	<i>Passer domesticus</i>	•	•	•
Savannah Sparrow	<i>Passer ianthus</i>	•	•	•
Fox Sparrow	<i>Passer iliensis</i>	•	•	•
Lazuli Bunting	<i>Passerina amoena</i>	•	•	•
American White Pelican	<i>Pelecanus erythrorhynchos</i>	•	•	•
Gray partridge	<i>Perdix perdix</i>	•	•	•
Chili Swallow	<i>Petrochelidon lunifrons</i>	•	•	•
Phalarope	<i>Plegadis falcinellus</i>	•	•	•
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	•	•	•
Common Poorwill	<i>Pipilo fuscus</i>	•	•	•
Ring-neck Phalarope	<i>Plegadis falcinellus</i>	•	•	•
Wilson's Phalarope	<i>Plegadis falcinellus</i>	•	•	•
Ring-necked Pheasant	<i>Phasianus torquatus</i>	•	•	•
Black-headed Grosbeak	<i>Pheucticus ludovicianus</i>	•	•	•
Black-billed Magpie	<i>Picoides arcticus</i>	•	•	•
White-headed Woodpecker	<i>Picoides arcticus</i>	•	•	•
Downy Woodpecker	<i>Picoides arcticus</i>	•	•	•

# Appendix I

## Wildlife Species Potentially Occurring on Humboldt Project Transfer Lands

Common Name	Scientific Name	Potential Occurrence		
		Humboldt Sink	Rye Patch Reservoir	Battle Mountain Community Pasture
Harry Woodpecker	<i>Picopodus erythron</i>	•		
Pine Grosbeak	<i>Pinicola enucleator</i>	•		
Rufous-sided Towhee	<i>Pipilo erythrophthalmus</i>	•	•	•
Western Tanager	<i>Pinanga ludoviciana</i>	•	•	•
Summer Tanager	<i>Pinanga rubra</i>	•	•	•
White-faced Ibis	<i>Plegadis chloia</i>	•	•	•
Black-bellied Plover	<i>Pluvialis squatarola</i>	•		
Horned Grebe	<i>Podiceps auritus</i>	•	•	•
Eared Grebe	<i>Podiceps nigricollis</i>	•		
Pied-billed Grebe	<i>Podilymbus podiceps</i>	•	•	•
Mountain chickadee	<i>Parus gambeli</i>	•	•	•
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	•	•	
Vesper Sparrow	<i>Pooecetes gramineus</i>	•	•	•
Sora	<i>Porzana carolina</i>	•	•	•
Purple Martin	<i>Progne subis</i>	•	•	•
Bush-tit	<i>Psaltiparus minimus</i>	•	•	•
Common Grackle	<i>Quiscalus quiscula</i>	•	•	•
Virginia Rail	<i>Rallus limicola</i>	•	•	
American Avocet	<i>Recurvirostra americana</i>	•	•	•
Ruby-crowned Kinglet	<i>Regulus calendula</i>	•	•	•
Golden-crowned Kinglet	<i>Regulus satrapa</i>	•	•	•
Bank Swallow	<i>Riparia riparia</i>	•	•	•
Black Phoebe	<i>Sayornis nigricans</i>	•	•	•
Say's Phoebe	<i>Sayornis saya</i>	•	•	•
Broad-tailed Hummingbird	<i>Scelasphorus platycirrus</i>	•	•	
Rufous Hummingbird	<i>Scelasphorus rufus</i>	•	•	•
Mountain Bluebird	<i>Sialia carolinensis</i>	•	•	•
Western Bluebird	<i>Sialia mexicana</i>	•	•	•
Red-breasted Nuthatch	<i>Sitta canadensis</i>	•	•	•
White-breasted Nuthatch	<i>Sitta carolinensis</i>	•	•	•
Pygmy Nuthatch	<i>Sitta pygmaea</i>	•	•	•
California Gull	<i>Somateria mollissima</i>	•	•	•
Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>	•	•	•
Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>	•	•	•
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	•	•	•
Dickcissel	<i>Spiza americana</i>	•	•	•
Brewer's Sparrow	<i>Spizella breweri</i>	•	•	•
Chipping Sparrow	<i>Spizella passerina</i>	•	•	•
Northern Rough-winged Swallow	<i>Stelendopteryx serripennis</i>	•	•	•
Calliope Hummingbird	<i>Stellula calliope</i>	•	•	
Caspian Tern	<i>Sterna caspia</i>	•	•	•
Forster's Tern	<i>Sterna forsteri</i>	•		
Western meadowlark	<i>Sturnella neglecta</i>	•	•	•
European Starling	<i>Sturnus vulgaris</i>	•	•	•
Violet-green Swallow	<i>Tachycineta bicolor</i>	•	•	•
Tree Swallow	<i>Tachycineta thalassina</i>	•	•	•
Bewick's Wren	<i>Thryomanes bewickii</i>	•	•	
Lesser Yellowlegs	<i>Tringa flavipes</i>	•	•	
Greater Yellowlegs	<i>Tringa melanoleuca</i>	•	•	
Solitary Sandpiper	<i>Tringa solitaria</i>	•	•	
House Wren	<i>Troglodytes aedon</i>	•	•	•
American Robin	<i>Turdus migratorius</i>	•	•	•
Eastern Kingbird	<i>Tyrannus tyrannus</i>	•	•	•
Western Kingbird	<i>Tyrannus verticalis</i>	•	•	•
Cassin's Kingbird	<i>Tyrannus vociferans</i>	•	•	•
Barn Owl	<i>Tyto alba</i>	•	•	•
Orange-crowned Warbler	<i>Vermivora celata</i>	•	•	•
Nashville Warbler	<i>Vermivora cinerea</i>	•	•	•



## Appendix I

### Wildlife Species Potentially Occurring on Humboldt Project Transfer Lands

Common Name	Scientific Name	Potential Occurrence		
		Humboldt Sink	Rye Patch Reservoir	Battle Mountain Community Pasture
Virginia Warbler	<i>Vermivora virginica</i>	•	•	•
Warbling Vireo	<i>Vireo gilvus</i>	•	•	•
Solitary Vireo	<i>Vireo solitarius</i>	•	•	•
Wilson's Warbler	<i>Vermivora Wilsoni</i>	•	•	•
Yellow-headed Blackbird	<i>Xanthocephalus albertus</i>	•	•	•
Mourning Dove	<i>Zenaidura macroura</i>	•	•	•
White-throated Sparrow	<i>Zonotrichia leucophrys</i>	•	•	•
Golden-crowned Sparrow	<i>Zonotrichia leucophrys</i>	•	•	•
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	•	•	•
Harris's Sparrow	<i>Zonotrichia querula</i>	•	•	•
<b>Mammals (A&amp;B)</b>				
White-tailed Antelope Squirrel	<i>Amelospiza leucurus</i>	•	•	•
Pronghorn	<i>Antilocapra americana</i>	•	•	•
Pallid Bat	<i>B. pallidus</i>	•	•	•
Pygmy Rabbit	<i>R. pygmaeus</i>	•	•	•
Coyote	<i>Canis latrans</i>	•	•	•
Beaver	<i>Castor canadensis</i>	•	•	•
Balding Ground Squirrel	<i>Citellus richardsoni</i>	•	•	•
Townsend's Ground Squirrel	<i>Citellus townsendii</i>	•	•	•
Chisel-toothed Kangaroo Rat	<i>Dipodomys deserti</i>	•	•	•
Ord Kangaroo Rat	<i>Dipodomys deserti</i>	•	•	•
Big Brown Bat	<i>E. f. hesperus</i>	•	•	•
Porcupine	<i>Erethizon</i>	•	•	•
Spotted Bat	<i>E. macrotis</i>	•	•	•
Least Chipmunk	<i>Eutamias amoenus</i>	•	•	•
Utah Chipmunk	<i>Eutamias</i>	•	•	•
Mountain Lion	<i>Felis concolor</i>	•	•	•
Sagebrush Vole	<i>Microtus</i>	•	•	•
Silver-Lined Bat	<i>Lasiurus</i>	•	•	•
Red Bat	<i>Lasiurus</i>	•	•	•
Hairy Bat	<i>Lasiurus</i>	•	•	•
Black-tailed Jackrabbit	<i>Lepus arizonae</i>	•	•	•
White-tailed Jackrabbit	<i>Lepus arizonae</i>	•	•	•
River Otter	<i>Lutra</i>	•	•	•
Bobcat	<i>Lynx baileyi</i>	•	•	•
Yellow-bellied Marmot	<i>Marmota flaviventris</i>	•	•	•
Striped Skunk	<i>Mephitis mephitis</i>	•	•	•
Montane Vole	<i>Microtus montanus</i>	•	•	•
House Mouse	<i>Peromyscus</i>	•	•	•
Short-tailed Weasel	<i>Mustela erminea</i>	•	•	•
Long-tailed Weasel	<i>Mustela putorius</i>	•	•	•
Mink	<i>Mustela vison</i>	•	•	•
California Bat	<i>Myotis californicus</i>	•	•	•
California Myotis	<i>Myotis californicus</i>	•	•	•
Long-eared Myotis	<i>Myotis longipennis</i>	•	•	•
Little Brown Bat	<i>Myotis lucifugus</i>	•	•	•
Small-footed Myotis	<i>Myotis grisescens</i>	•	•	•
Tringid Myotis	<i>Myotis</i>	•	•	•
Long-legged Myotis	<i>Myotis</i>	•	•	•
Yuma Myotis	<i>Myotis</i>	•	•	•
Bushy-tailed Woodrat	<i>Neotoma f. lepida</i>	•	•	•
Desert Woodrat	<i>Neotoma lepida</i>	•	•	•
Mule Deer	<i>Ovis montanus</i>	•	•	•
Musk Rat	<i>Ondatra zibethicus</i>	•	•	•
Northern Grasshopper Mouse	<i>Onychomys leucogaster</i>	•	•	•
Little Pocket Mouse	<i>Perognathus parvus</i>	•	•	•
Great Basin Pocket Mouse	<i>Perognathus parvus</i>	•	•	•
Desert Pocket Mouse	<i>Perognathus parvus</i>	•	•	•

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### Wildlife Species Potentially Occurring on Humboldt Project Transfer Lands

Common Name	Scientific Name	Potential Occurrence		
		Humboldt Sink	Rye Patch Reservoir	Battle Mountain Community Pasture
Deer Mouse	<i>Peromyscus maniculatus</i>	•	•	•
Western Pipistrelle	<i>Pipistrellus hesperus</i>	•	•	
Townsend's Big-eared Bat	<i>Plecotus townsendii</i>	•		•
Raccoon	<i>Procyon lotor</i>	•	•	•
Norway Rat	<i>Rattus norvegicus</i>	•	•	•
Western Harvest Mouse	<i>Reithrodontomys megalotis</i>	•	•	•
Northern Water Shrew	<i>Sorex palustris</i>			
Piebale's Shrew	<i>Sorex preblei</i>			
Vagrant Shrew	<i>Sorex vagrans</i>	•	•	
Spotted Skunk	<i>Spilogale putorius</i>	•	•	•
Cottontail Rabbit	<i>Sylvilagus auduboni</i>	•	•	•
Pygmy Rabbit	<i>Sylvilagus idahoensis</i>		•	
Mountain Cottontail	<i>Sylvilagus nuttalli</i>	•	•	•
Brazilian Tree-tailed Bat	<i>Ladarrida brasiliensis</i>	•	•	•
Big Tree-tailed Bat	<i>Ladarrida molossa</i>	•		
Badger	<i>Taxidea taxus</i>	•	•	
Botta Pocket Gopher	<i>Thomomys bottae</i>	•	•	•
Northern Pocket Gopher	<i>Thomomys talpoides</i>	•	•	•
Townsend Pocket Gopher	<i>Thomomys townsendii</i>	•	•	•
Red Fox	<i>Vulpes fulva</i>	•	•	•
Kit Fox	<i>Vulpes macrotis</i>	•	•	•
Western Jumping Mouse	<i>Zapus princeps</i>	•	•	•
<b>Reptiles (A, B, &amp; C)</b>				
Rubber Boa	<i>Charina bottae</i>	•	•	•
Western Whiptail	<i>Cnemidophorus tigris</i>	•	•	•
Racer	<i>Crotalus constrictor</i>	•	•	•
Western Rattlesnake	<i>Crotalus viridis</i>	•	•	•
Desert Collared Lizard	<i>Crotaphytus insularis</i>	•	•	•
Ring-neck Snake	<i>Diadophis amabilis</i>	•	•	•
Western Skink	<i>Eumeces skiltonianus</i>	•	•	•
Leopard Lizard	<i>Gambelia wislizenii</i>	•	•	•
Long-nosed Leopard Lizard	<i>Gambelia wislizenii wislizenii</i>	•	•	•
Night Snake	<i>Hypsiglena torquata</i>	•	•	•
Striped Whipsnake	<i>Masticophis lateralis</i>	•	•	•
Short-horned Lizard	<i>Phrynosoma douglasii</i>	•	•	•
Desert Horned Lizard	<i>Phrynosoma platyrhinos</i>	•	•	•
Gopher Snake	<i>Pituophis melanoleucus</i>	•	•	•
Long-nosed Snake	<i>Rhinocerosaurus lecontei</i>	•	•	•
Western Patch-nosed Snake	<i>Salvadora hexalepis</i>	•	•	•
Sagebrush Lizard	<i>Sceloporus graciosus</i>	•	•	•
Desert Spiny Lizard	<i>Sceloporus magister</i>	•	•	•
Western Fence Lizard	<i>Sceloporus occidentalis</i>	•	•	•
Ground Snake	<i>Sonora semamulata</i>	•	•	•
Western Terrestrial Garter Snake	<i>Thamnophis elegans</i>	•	•	•
Common Garter Snake	<i>Thamnophis sirtalis</i>	•	•	•
Side-Blotched Lizard	<i>Uma stansburiana</i>	•	•	•
<b>Amphibians (A,C)</b>				
Western Toad	<i>Bufo boreas</i>	•	•	•
Woodhouse's Toad	<i>Bufo woodhousei</i>	•	•	•
Pacific Treefrog	<i>Hyla regilla</i>	•	•	•
Bullfrog	<i>Rana catesbeiana</i>	•	•	•
Northern Leopard Frog	<i>Rana pipiens</i>	•	•	•
Spotted Frog	<i>Rana pretiosa</i>	•	•	•
Great Basin Spadefoot	<i>Scaphiopus intermontanus</i>	•	•	•
<b>Fish (C)</b>				
Sacramento perch	<i>Archoplites interruptus</i>	•	•	•
Goldfish	<i>Carassius auratus</i>	•	•	•

## Appendix I

### Wildlife Species Potentially Occurring on Humboldt Project Transfer Lands

Common Name	Scientific Name	Potential Occurrence		
		Humboldt Sink	Rye Patch Reservoir	Battle Mountain Community Pasture
Lahontan sucker	<i>Catostomus commersoni</i>	●	●	●
Common carp	<i>Cyprinus carpio</i>	●	●	●
Northern pike	<i>Esox lucius</i>	●	●	●
Gambusia	<i>Gambusia affinis holbrooki</i>	●	●	●
Lahontan chub	<i>Platypharodon exilis</i>	●	●	●
Brown bullhead	<i>Ambloplites rupestris</i>	●	●	●
White catfish	<i>Ictalurus punctatus</i>	●	●	●
Channel catfish	<i>Ictalurus punctatus</i>	●	●	●
Green sunfish	<i>Lepomis microlophus</i>	●	●	●
Bluegill	<i>Lepomis macrochirus</i>	●	●	●
Smallmouth black bass	<i>Micropterus dolomieu</i>	●	●	●
Largemouth black bass	<i>Micropterus salmoides</i>	●	●	●
White bass	<i>Morone chrysops</i>	●	●	●
Yellow perch	<i>Perca flavescens</i>	●	●	●
White crappie	<i>Pomoxis annularis</i>	●	●	●
Redside shiner	<i>Richardsonius balteatus</i>	●	●	●
Brown trout	<i>Salmo trutta</i>		●	
Walleye	<i>Stizostedion vitreum</i>	●	●	

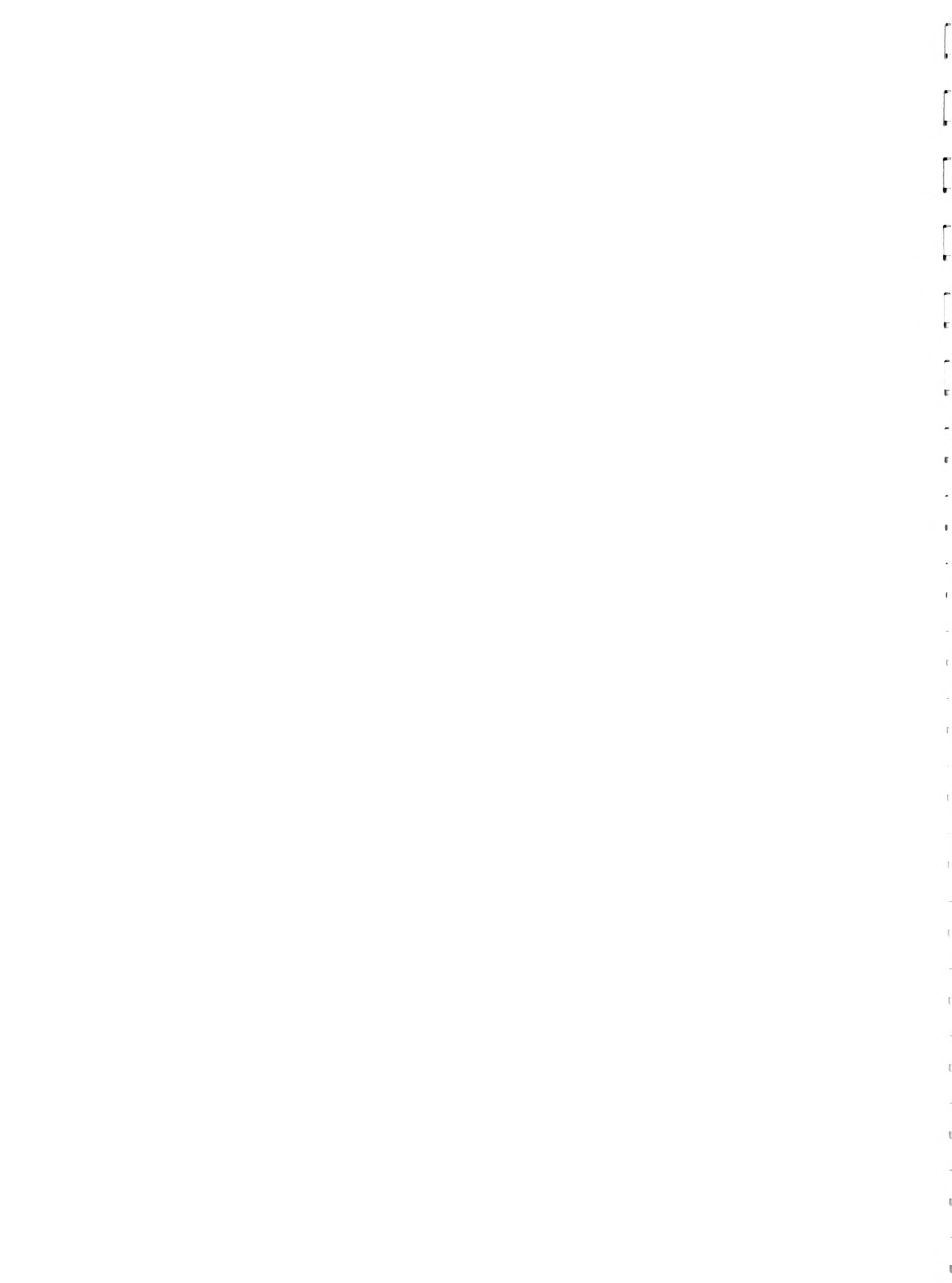
(A): Bradley (NDOW 1991)

(B): Bull and Richards (NDOW 1991)

(C): Fissmann et al. Nevada State Park 1991

Other Sources: USFWS Nevada Office, October 10, 2013; Mellison, Chad, USFWS, March 3, 2004

Note: No ● indicates a species that is listed for the Humboldt River and its Major Tributaries (Bradley, NDOW 1991) but not recorded in or near any of the three project areas.



## **APPENDIX J – SUMMARY OF COMMENTS RECEIVED DURING SCOPING**



It is Reclamation's intent to address all of the issues brought up during scoping to the extent practicable. The comments listed below are grouped by issue categories. A complete set of the written comments will be made available as part of the public record for the project.

## **NEPA Process**

- ❖ The drafters of the Environmental Impact Statement should accept the plan which has been developed, with its heavy emphasis on environmental preservation and to totally discount any "new information" as nothing more than obstructionism.
- ❖ Address the No-Action alternative.
- ❖ The effect the channelization of the Argenta Marsh has had and will continue to have on wildlife, fisheries, water quality quantity, and the functioning condition of the river and wetland systems, and surrounding land. Explain how the existing situation and all proposed actions comply with the Clean Water Act, Endangered Species Act, and other pertinent laws, which protect the loss of wetlands and or resources.
- ❖ The effects of the proposed action and alternatives on Threatened and Endangered Species, USFWS Species of Concern and State listed species must be analyzed.
- ❖ Increase scoping meetings to include other interested communities in Nevada, including Winnemucca (near Rye Patch) and Lovelock (near Humboldt Sink).
- ❖ Southern Nevada - Las Vegas was missed for open house meeting.
- ❖ Transaction costs should be the responsibility of PCWCD.
- ❖ Why was PCWCD allowed to hire NEPA consultant rather than Bureau of Reclamation?
- ❖ BLM should be a major player in this process.

## **Water Resources**

- ❖ Rye Patch Reservoir should be kept with a minimum pool greater than or equal to 5,000 acre-feet. 3,000 acre-feet is not adequate to keep temperatures and dissolved oxygen at proper levels for fish survival.
- ❖ The minimum pool of water at Rye Patch is far too little to sustain the Rye Patch Reservoir as a quality fishery, wildlife habitat and recreational body of water.
- ❖ Direct and indirect impacts to existing decreed and certificated surface and groundwater rights from all proposed uses of land transferred pursuant to the Humboldt Project Conveyance should be addressed in the EIS.
- ❖ Identify all quantities and sources of ground and surface water to be acquired by any party as needed to develop and use land transferred pursuant to the Humboldt Project Conveyance.
- ❖ Much more water for wildlife is needed.
- ❖ Provide project water for wetlands.

- ❖ Put water back into Argenta Marsh.
- ❖ Public water resources should not be privatized.
- ❖ The restoration alternative and possible mitigation measures for the loss of publicly owned lands and water rights should include sufficient water for wetlands restoration purposes.

## **Water Quality**

- ❖ Reclamation proposes transferring title of the PCWCD owned portion of the Humboldt Sink to the Nevada Department of Wildlife (NDOW). The area would thus remain as a Wetland/Waterfowl Management Area. Water quality downstream of major irrigation projects has been a major problem in other areas of the country and should be analyzed in the EIS and procedures established and implemented.

## **Wetlands**

- ❖ The EIS should address the best locations for wetlands restoration and management techniques for mitigation for mosquitoes and black flies in the Community Pasture area. It should include the best restoration techniques, from minimal to extensive. It should list the best size for a demonstration restored wetland.
- ❖ Identify other wetlands along the Humboldt River for future restoration.
- ❖ The Sierra Club supports a wetlands restoration alternative, with optimal locations for restored wetlands, along the Humboldt River, in seasonally flooded lowlands, and along other natural watercourses. The size should approximate the historic Argenta Marsh, recognizing that the marsh expanded and contracted, depending on annual river flows.

## **Argenta Marsh**

- ❖ Land should be set aside for the possible restoration of Argenta Marsh.
- ❖ Add alternative for Argenta Marsh restoration.
- ❖ Provide an alternative for Argenta Marsh restoration along historic Humboldt River corridor with old oxbows and sloughs.
- ❖ The acreage for the restoration of the Argenta Marsh must be significantly enlarged in order to restore a fraction of the values that were lost decades ago.
- ❖ Reestablish marsh lands in the Battle Mountain Community Pasture.
- ❖ Provide funding for a demonstration Argenta wetlands restoration project on the acquired wetlands which can be most technically and cost-effectively restored.
- ❖ Analyze the continued need for the channelization of the Argenta Marsh/Community Pasture. Is it necessary for the continued function of the Humboldt project? Present science indicates that the potential water storage in the Community Pasture would better benefit the project than "hydraulic efficiency".



## **Riparian Habitat**

- ❖ Create riparian habitat along Humboldt River to delay flow of water to Rye Patch Reservoir.
- ❖ Riparian areas including overflow channels, springs, and oxbows should be managed for wildlife habitat.

## **Floodplains**

- ❖ Areas associated with floodplains of Humboldt River and Rock Creek should be identified and protected from development as mandated by the Floodplain Management Act.

## **Vegetation**

- ❖ The no action and any other proposed alternatives that stipulates the transfer of the Lander County Community Pasture to PCWCD must specify that PCWCD establish a Resource Management Plan for the Humboldt River and its floodplain within Lander County. At a minimum, the objectives of this plan should include the return of the river and its floodplain to a properly functioning condition and the re-establishment of the natural plant communities for the different components of the systems. See Executive order 11990 Section 4.

## **Wildlife**

- ❖ Waterfowl habitat north and south of Callahan Bridge should be transferred to the State of Nevada.
- ❖ The FIS should support ecosystem restoration, not just duck pond creation.

## **Socioeconomic**

- ❖ Address socio-economic impact of past, present and proposed actions.
- ❖ Quantify environmental, fiscal and economic impacts within Elko, Eureka, Lander, Humboldt and Pershing counties resulting from development and use of land transferred and any water required to use said lands.
- ❖ This is the best thing for the ranchers.
- ❖ Concerned about this Project impact to small acreage operators.
- ❖ The proposed trail system that will belong to Lander County is good. To make the most beneficial use of this trail system and other recreational opportunities, the County should develop an Open Space Plan. The proponent working with the County (Community Development or Economic Development) to develop appropriate mitigation, if needed, is encouraged. The County is eligible to acquire Question 1 funds to create an Open Space Plan. It would be appropriate to incorporate this into the bike plan already approved by the County.

## **Historic Preservation**

- ❖ Protect and manage the historic Emigrant Trail along the Humboldt River by BLM, NDOW, State Parks and private landowners. The EIS should include the best option for protection and management of the Emigrant Trail.
- ❖ Potential impacts of this transfer upon the California Trail and the many other known and potential historic properties are a concern.
- ❖ Provide access to and protection for the historic Immigrant Trail along the Humboldt River.
- ❖ The river corridor and associated marshlands and the meadows around Rye Patch Reservoir were also the traveling routes for early explorers, beaver trappers, pioneers taking the Emigrant Trail routes to California and railroad workers. Each group of visitors left traces of their passage which should be surveyed, inventoried, and preserved as part of our Western heritage.
- ❖ Surveys, inventory, and preservation of paleontological resources in the disposal areas should be conducted before any title transfer takes place. See Studies in Archeology, Geology and Paleontology at Rye Patch Reservoir, Pershing County, Nevada M. Rusco & J. Davis, June 1987.

## **Cultural Resources/Indian Trust Assets**

- ❖ These lands have historic and spiritual significance to the Lovelock Paiutes.
- ❖ The Lovelock Paiute Tribe is protesting this conveyance, since the Bureau of Reclamation has not followed the executive order dated April 29, 1994 signed by President Clinton. (Executive Order 13175 titled "Consultation and Coordination with Indian Tribal Governments, signed by President Clinton on November 6, 2000. The April 29<sup>th</sup> document is an Executive Memorandum).
- ❖ Archeological and cultural resources in the Community Pasture must be inventoried and effects analyzed.
- ❖ The Humboldt River Corridor and associated marshlands have been inhabited for millennia by native people. Before these public lands are privatized, a full survey and inventory of the rich cultural area should be conducted and significant sites and artifacts carefully recorded and preserved.

## **Recreation**

- ❖ Include present and possible future revenue from recreation opportunities to Lander County, given that the Community Pasture were restored to its pre-fifties condition and managed by NDOW or other resource agency or private resource conservation group. Those opportunities include bird watching, camping, swimming, fishing, hunting, and the improvement in the general aesthetics of the river environment. Several communities in the intermountain west have improved their economic condition by taking advantage of existing or by improving recreational opportunities.
- ❖ The recreational and environmental value of Rye Patch Reservoir must be considered. If the minimum pool was raised to 17,000 acre foot, the Federal government should be able to subsidize irrigation district losses.
- ❖ In addition to the recreational benefits of the Rye Patch Reservoir, the economic value to the

county needs to be realized. If we had a larger minimum pool, the fishery would be utilized year round, thus increasing the business within our County.

## **Land Ownership/Land Use**

- ❖ Provide an alternative that analyzes the transfer of title of the Community Pasture to NDOW, Lander County, or other government agencies or private parties (Nature Conservancy, Ducks Unlimited, Trout Unlimited, etc.) interested in restoring the natural resources of the area.
- ❖ Transfer prime historic wetlands in the community pasture along the Humboldt River corridor to the State of Nevada. These include about 5,000 acres in Township 32 North, Range 45 East.
- ❖ Acquire a conservation easement by the State of Nevada to all other lands to be transferred in the Humboldt Project. The conservation easement will encompass wildlife values, water management and recreational access and will include historical and cultural values, tourism opportunities, water management to minimize future problems, and to protect wildlife.
- ❖ Provide a complete description of all proposed uses of land to be transferred pursuant to the Humboldt Project Conveyance.
- ❖ The location and amount of land above the Rye Patch Dam's high water mark needs to be identified and the affect of its disposition on recreational opportunities and requirements for the existing fishery (minimum pool) needs to be analyzed in the NEPA document. This includes BLM land that may have been included in the dam project, but never properly conveyed to Reclamation and therefore should not be a part of the transfer.
- ❖ A riparian easement should be obtained for a 400 yard corridor along the Humboldt River channel. The corridor should be fenced and managed for a riparian pasture according to Bureau of Land Management of U. S. Fish & Wildlife Service riparian guidelines. The State should acquire all of Rock Creek within the Battle Mountain Community Pasture and restore and manage the area as a riparian wildlife area.
- ❖ The land along Humboldt River and Rock Creek should be transferred to both NDOW and Pershing County.
- ❖ The State should acquire all of Rock Creek within the Battle Mountain Community Pasture and restore and manage the area as a riparian wildlife area.
- ❖ Acquire private wetlands at the Licking Ranch to link these two wetland areas along with the currently leased water rights.
- ❖ No condominiums should be built.
- ❖ The financial ability and commitment of the PCWCD to maintain and/or rehabilitate various hydraulic structures in perpetuity within the Project must be addressed.
- ❖ Need public access to river for recreations (fishing and camping). Water is already scarce in Nevada it must not be blocked off from public access.
- ❖ Protect public access to all transferred lands. Public access would be protected by law and include all of the existing community pasture.

- ❖ Need adequate public access to NDOW land.
- ❖ Ensure adequate public access to NDOW lands and all along the Humboldt River.
- ❖ Correct grazing mismanagement on Community Pasture.
- ❖ There must be a science-based plan in place and action taken to restore the community pasture to health and sustainability.
- ❖ Provide for restoration of historic river channel through fencing and livestock management.
- ❖ The restoration alternative should include land acquisition of significant private parcels in areas of biologically optimal wetlands re-establishment.
- ❖ In other parts of the Community Pasture, grazing management improvements can be made to correct decades of livestock overgrazing.





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